

Revised Version of Selected Botanical.com Articles. Part-5

Pankaj Oudhia

Introductory Note

While going through Botanical.com articles I noted spelling mistakes as well as grammatical errors. It is not possible to correct it there. Hence, I decided to present it through pankajoudhia.com.

These articles with new information resulted from recent Ethnobotanical surveys are available in pankajoudhia.com.

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Traditional medicinal uses of Ban Kongu (*Panicum sarmentosum*) in Chhattisgarh, India.

Ban Kongu is well known herb in Chhattisgarh specially among the traditional healers specialized in use of herbs as aphrodisiac. They use it both internally as well as externally for this purpose. Ban Kongu is a grassy species. Many species of *Panicum* i.e. *Panicum miliaceum*, *P. miliare*, *P. antidotale* are well known but *Panicum sarmentosum* is less known and less studied herb. Although it is present in wild but very few traditional healers are aware of its use as medicine. In reference literatures related to different system of medicine in India, I have yet not found this herb as medicinal herb. In different parts of Chhattisgarh it is known by different names but in general, it is known as Ban Kongu. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected many valuable information about this herb.

As mentioned earlier, Ban Kongu is used as aphrodisiac by the traditional healers. The roots are used internally alone or in combination with other herbs as aphrodisiac. Most of the traditional healers avoid this herb in combination. The roots are collected and dried in shade. After drying the roots are converted into powder. The powder is taken internally with Shahad (Honey). Shahad acts as carrier of root powder. For external use, the traditional healers boil the whole

herb, collected before flowering, in Sarson (Mustard seed) oil. When all watery contents evaporate the boiling is stopped and special oil is kept for future use. The special oil is massaged on genitals just before the intercourse. According to the traditional healers both internal as well as external uses of Ban Kongu plant parts cure the problem of poor sexual desire and performance effectively in very less time. They are not in favour of its long term use. Also, its use for amusement is not preferred. During the surveys I have noted that the herb vendors purchase this oil from the healers and sell it to the interested natives of Chhattisgarh and neighbouring states. During the surveys, I got the opportunity to interact with the patients getting benefit from Ban Kongu plant parts. The results were encouraging. The traditional healers of Southern Chhattisgarh use the roots of Ban Kongu externally in form of decoction in treatment of throat related troubles but as other promising alternatives are available it is used less commonly.

For the common natives, Ban Kongu is a fodder yielding grass. The farmers have kept it in the category of Van Ghas (Waste plants). I am feeling fortunate to collect the valuable information about this so called waste plant. As this herb is present in many parts of the world, I am confident that the information on traditional medicinal uses will be of great use for the researchers of these parts.

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Traditional medicinal uses of Kakmari (*Anamirta paniculata*) in Chhattisgarh, India.

The traditional healers of Chhattisgarh have kept Kakmari in the category of herbs having very toxic effects. They use it popularly as dog poison like the seeds of Kuchla (*Strychnos nuxvomica*). It is its toxic effect that the traditional healers aware of its potential medicinal uses and properties use it judiciously and instruct the beginners to avoid the use without consulting

the senior healers. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected many valuable information on different aspects of this herb.

The traditional healers of Southern Chhattisgarh use its seeds externally in form of herbal oil. The seeds are boiled in base oil and when all watery contents evaporate the boiling is stopped and special oil is kept for future use. This special oil is used for different purposes. In general it is used to dress the wounds. It is also considered useful in treatment of rheumatic pain. It is massaged gently on painful parts. For this purpose, as base oil Sarson (Mustard seed) oil is used. The traditional healers of Chhattisgarh specialized in treatment of different types of cancer use its seeds both internally as well as externally. It is used in combination with other herbs. The purpose of addition of other herbs is to nullify the toxic effects of Kakmari seeds. As traditional secret, the healers do not want to disclose the details regarding the formulations. They informed that they have acquired this unique knowledge from their ancestors. I have identified only 35 traditional healers aware of its use in treatment of cancer. Most of these healers are crossing 80 years of age. Through the on-going Ethnobotanical surveys I am trying my best to document the valuable information they are having as most of them are not ready to transfer it to the next generation because of the fear of misuse.

Botanically, Kakmari is a shrub climbing to a considerable height with vertically furrowed bark; Leaves subcoriaceous, broadly ovate, cordate or truncate, 5-nerved, tuft of hairs in the axils of nerves except the basal ones; Flowers in 2.5-3.5 cm long panicles, many flowered; Fruit drupe on a 3 fid gynophores, smooth, black.

In reference literatures related to different systems of medicine in India, Kakmari holds a reputed position as medicinal herb. Its leaves and fruits are used as medicine. According to the Unani system of medicine, the fruit is slightly bitter, good expectorant, removes gases from the intestines, good for rheumatism and as an application for inflammations. It is a popular fish poison.

Although its name is not present in the official list of medicinal herbs having any demand in national market but according to the herb traders and collectors of the state, there is a fair

demand of this herb. The present collection of its plant parts is not posing any threat on its natural population.

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Traditional medicinal uses of less known *Jatropha* species Kirkundi (*Jatropha nana*) in Chhattisgarh, India.

Thanks to the reference literatures on flora as due to these literatures I identified the rare species of *Jatropha* as *Jatropha nana*. Since last two years, I am surveying the Chhattisgarh for the collection of wild population of *Jatropha* and traditional knowledge about it. Through these surveys I got much information about *Jatropha curcas*, *J. gossypifolia* and *Jatropha glandulifera*. During the surveys in regions close to the Maharashtra border I got information about new less known species of *Jatropha*. Fortunately, I got success to identify the senior traditional healers aware of traditional medicinal uses of this new species. It is locally known as Kirkundi. The traditional healers informed that the occurrence of this species is very rare. In reference literatures, it is mentioned as *Jatropha nana*. In reference literatures related to different systems of medicine in India, the use of its juice as counter-irritant in ophthalmia is reported. Few healers of Chhattisgarh consider it as promising substitute to other *Jatropha* species but most of the healers are unanimous that it possess unique medicinal properties and uses. According to them, in early days, the healers were more aware of its medicinal properties but as this herb is rare and difficult to get sufficient amount to prepare herbal formulations, its uses are becoming less known day by day.

The traditional healers of Chhattisgarh use the latex of Kirkundi in treatment of skin related trouble as last hope when all other remedies fail. It is used both internally as well as externally but the external use is preferred. In general, it is used alone, not in combination with medicinal herbs. Many healers boil the freshly collected latex in base oil to prepare a special oil. As base oil Sarson (Mustard seed) oil is used. This special oil is used round the year in treatment of skin related troubles. According to the healers, the special oil can be kept upto long time even upto 5 years but as its method of preparation is simple, the healers prepare fresh oil every years. During the surveys, I have noted that the herb vendors sell this special oil as sure cure of common skin diseases without disclosing its ingredients. As herb expert, I see tremendous scope in this special oil as potential commercial product. The traditional healers of Southern Chhattisgarh specialized in treatment of different types of cancer were not aware of this herb.

When I presented them the plant and special oil, they assured me to test its efficacy on cancerous wounds. Yesterday I got a positive message from one of the healers.

In reference literatures, above mentioned traditional medicinal uses have yet not been reported. This information is coming among the world community for the first time through this research article. Through the on-going surveys, I am trying my best to gather more information on this important aspect.

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Traditional medicinal uses of Gangeran (*Sida spinosa*) in Chhattisgarh, India.

Among well known *Sida* species viz. *Sida acuta*, *Sida cordifolia*, *Sida rhombifolia* etc., *Sida spinosa* is not known much as medicinal herb. Atleast in modern literatures. Gangeran (*Sida spinosa*) is well known folk medicine in Chhattisgarh. The natives and traditional healers have rich traditional medicinal knowledge about this herb. It is used both internally as well as externally in treatment of many common diseases. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected many valuable information about this herb.

The senior traditional healers of Chhattisgarh still remember the early days, when they were using the leaf juice of Gangeran during war time in order to treat the soldiers, injured by swords

and arrows, in one night time. The healers are much impressed by the wound healing properties of Gangeran. Its external application not only stops the bleeding but also helps in wound healing with amazing rates. Its application also helps as promising pain killer. The use of Gangeran is still popular among the healers. Its popularity indicates its effectiveness. The healers are not in favour of its use with other herbs. In reference literatures, the unique healing properties of Gangeran are not described in detail. Also, the researchers have yet not focused their studies on this important aspect. The traditional healers of Chhattisgarh have kept Gangeran in the group of Bariyara (*Sida acuta*), Sahadevi (*Sida rhombifolia*) and Kunngnyi (*Sida cordifolia*). According to them, the medicinal properties of Gangeran are similar to that of *Sida acuta*. The traditional healers of Southern Chhattisgarh consider Gangeran medicinally superior to all other *Sida* species. The traditional healers of Nagri-Sihawa region of Chhattisgarh use the roots of Gangeran in treatment of fever. The decoction is given twice a day to the patients. According to the healers, the use of decoction not only reduces the high body temperature but also acts as tonic and give extra strength to the patients. The roots are also used in combination with other herbs. In reference literatures related to different systems of medicine in India, the uses of Gangeran leaves in treatment of Gonorrhoea, gleet and scalding urine have been mentioned. The traditional healers of Chhattisgarh are aware of these uses but as other promising alternatives are available, it is used less commonly.

Botanically, Gangeran (*Sida spinosa* syn. *S. alba*) is erect annual hairy herbs having height upto 70 cm; Leaves ovate-oblong or lanceolate, obtuse or acute, 1-4 cm long, serrate, leaving a distinctive, spine like scar on falling; Flowers axillary, solitary or 2-5 together; Corolla yellow; Mericarps 5, trigonous, strongly reticulately veined, hairy at apex; seed ovoid. Flowering and fruiting time in Chhattisgarh conditions October-December.

The name of Gangeran is not present in the official list of medicinal herbs of Chhattisgarh having any demand in national markets but in reality it is not only collected in bulk for trade but also the buyers at metros are aware that the natural forests are rich in its wild population. In many parts of Chhattisgarh, the farmers are earning from this so-called wasteland weed. Its present collection is not posing any threat on its natural population.

Traditional medicinal uses of Ban Sahadevi (*Vernonia teres*) in Chhattisgarh, India.

Out of all *Vernonia* species in Chhattisgarh, Sahadevi (*V. cinerea*) and Kali Zeeri (*V. anthelmintica*) are known commonly and used as folk medicine by the natives and traditional healers. Sahadevi grows as wasteland weed. It is also reported as crop weed. Kali Zeeri grows as forest herb in almost all parts of Chhattisgarh. It is also under cultivation in many parts of India as medicinal crop. Both Sahadevi and Kali Zeeri are added as main ingredients in popular herbal combinations used in traditional systems of medicine in India. A lot has been written on different aspects of these herbs. In my previous articles, I have also documented the rich traditional medicinal knowledge about these herbs in Chhattisgarh. Ban Sahadevi (*Vernonia teres*) is although a common weed but both researchers and traditional healers are less aware of its medicinal properties and uses. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh. I have collected many valuable information on different aspects of this herb.

The traditional healers of Southern Chhattisgarh collect the whole herb of Ban Sahadevi and after drying, crush it into fine powder. This powder is considered as a boon for the patients having the problem of respiratory troubles. The powder is used in many ways. In general, it is burnt and the patients are advised to inhale the fumes. It acts as both curative and preventive Asthma. Many traditional healers prepare Herbal cigarette using this powder. This Cigarette is considered useful at initial stages. At later stage, they prepare Cigarettes by adding many herbs like *Blumea*, *Adhatoda* etc. They informed that *Vernonia* powder plays very important role in this Cigarette. In reference literatures, the use of powder prepared from *V. elaeagnifolia* in same way is mentioned but no detail is available regarding *V. teres*. The traditional healers of Chhattisgarh are aware of anthelmintic properties of Ban Sahadevi but they prefer the seeds of *V. sinerea* and *V. anthelmintica*. The traditional healers of Chhattisgarh Plains informed that the flower heads of Ban Sahadevi are more effective than its seeds for this specific use. In reference literatures its use in treatment of dysmenorrhoea is reported. The traditional healers of Chhattisgarh are aware of this use but as other promising alternatives are available it is used less commonly for this purpose. The traditional healers of Ambikapur region use the freshly extracted juice of whole herb of Ban Sahadevi to dress the wounds. According to them, this juice not only stops the further spread of the infection but also helps in wound healing.

The name of Ban Sahadevi is not present in the list of medicinal herbs having any demand in national and international markets. Possibly, the end users are not aware of its promising medicinal uses. Recently, I have written to the state authorities to pay special attention on this herb and to promote its sustainable utilization after systematic research.

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Traditional medicinal knowledge about Ban Gumma (*Leucas linifolia*) in Chhattisgarh, India.

Unlike Gumma (*Leucas aspera* and *Leucas cephalotes*). Ban Gumma (*Leucas linifolia*) is used less commonly as folk medicine by the natives and traditional healers of Chhattisgarh. All *Leucas* species grow as wasteland and field weeds in Chhattisgarh. The leaves of these species are popularly used as potherb. Although the taste of all leaves are same but medicinally different leaves possess different medicinal properties and uses. The leaves of Gumma as pot herb develop resistance against bites of snake and poisonous insects. The pot herb is also considered as a boon for the patients having the problem of chronic rheumatism. The leaves of Ban Gumma are used as appetite suppressant like the seeds of Chirchita (*Achyranthes aspera*). The use of Chirchita seeds in form of sweet preparation results in good satiety value without food upto long time but the use of Ban Gumma leaves as pot herb result in complete loss of appetite with much weakness. This is the reason it is used less commonly by the natives as potherb. The traditional healers are aware, how to utilize this property of Ban Gumma as medicine. In treatment of patients having the problem of excessive hunger, they suggest the use of Gumma leaves in combination with other herbs at pot herb. The other herbs eliminate the harmful effects of Ban Gumma leaves. The additions of other herbs avoid the chances of extreme weakness. As traditional secret, the healers do not want to disclose the information regarding other herbs. The traditional healers living in urban areas are now using Ban Gumma leaves in treatment of obesity successfully. In reference literatures, it is mentioned that the traditional healers of other parts of India use the Ban Gumma leaves in combination with plantain leaf for the same purpose. This combination is not in use for this purpose in Chhattisgarh. The traditional healers of Bagbahera region of Chhattisgarh claim that Ban Gumma can be used in treatment of snake and scorpion bite but they prefer the use of Gumma (*L. aspera* and *L. cephalotes*) for this purpose.

Although Ban Gumma is present in almost all parts of Chhattisgarh but during Ethnobotanical surveys conducted in different parts of the state, I have seen its higher population at Chhattisgarh Plains. The herb traders and collectors have confirmed that the name of Ban Gumma is not present in the list of medicinal herbs having any demand in national and international markets. Through the Allelopathic studies I have evaluated the Allelopathic potential of *L. aspera* and *L. cephalotes*. Now, I am conducting the same experiments using *L. linifolia*. In nature, it dominates over many common species. Many of these species are considered as problematic weeds of crop fields. I am confident that very soon I will be able to identify the potential extract and leachate that can be used to manage these problematic weeds. The traditional healers of Chhattisgarh see the dominance of *L. linifolia* on other herbs from different angle. According to them, the health problems caused by other herbs can be managed successfully with the help of *L. linifolia* as medicine.

I personally feel that there is a strong need to conduct systematic clinical trials on different aspects of Ban Gumma particularly on its unique property to suppress the appetite.

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How many health troubles can be managed by the Papita Ke Athan ? : Interactions with the traditional healers of Chhattisgarh Plains, India.

After long discussions with the traditional healers of Chhattisgarh Plains recently, I came to the conclusion that it is not wrong to declare it as a new therapy in which many health troubles are managed through Papita Ke Athan i.e. the pickles prepared from Papaya immature fruits. This is really surprising observation for me to see the traditional uses of Papita in Chhattisgarh as it is a

native to West Indies and Central America and it is not a herb that is present since long time in the state. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh, when I observed plastic jars filled with Papita pickles with the traditional healers, out of curiosity I asked about its use. The healers informed that they manage many health problems only through the use of these pickles. Many troubles? And only through Papita pickles? I decided to collect the detailed information.

The traditional healers of different parts of Chhattisgarh Plains use Papita pickles for different purposes. In general, it is considered as a boon for the patients having spleen (Tilli) related troubles. The patients are advised to consume it upto very long time. As it is tasty preparation, the natives of all age groups consume it with taste. Papita is an integral part of home gardens. The traditional healers of Raipur region recommend the use of these pickles to patients having the problem of old diarrhea. Its use is considered as remedy to regularize the normal function of digestive system. The traditional healers of Tilda claim that the regular consumption of pickles, helps in proper utilization of herbal remedies inside the human body. The healers of Durg region claim that in majority of the cases particularly at initial stages Bavasir (Piles) can be cure successfully with this pickles. The patients are advised by them to take the pickles empty stomach daily morning. In complicated cases, its use twice a day is also recommended. The traditional healers of Rajnandgaon region specialized in treatment of Pelea (Jaundice) never miss to recommend this pickle along with main treatment of Jaundice. They suggest its regular use even after the complete cure in order to prevent further attacks.

The method of pickle preparation is very easy. The square pieces of raw fruits are mixed with Hardi (Turmeric), and noon (Salt) and dipped in Sarson Tel (Mustard oil). The combination is kept as such upto one week and after this period it is considered ready for use. In general, the traditional healers prepare it in bulk and give it to the patients in small amount, when they approach to them. The pickle is also prepared by the natives.

The long list of health benefits encouraged me to write a separate article on this 'Pickle Therapy'. I am aware that Papita pickle is popular in many parts of the world but the natives are not much aware of its health benefits. For them, this article will be of great help.

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Traditional medicinal knowledge about *Elyonurus royaleanus* in Chhattisgarh, India.

Chhattisgarh, the Herbal State, is rich in grass diversity. Many important and lesser known grasses grow naturally in abundance. The natives and traditional healers of the state have named these species based on its appearance, growth habit, medicinal uses etc. There are hundreds of species having no name. The natives and healers have kept it in the category of Van Ghas (Wild Grasses). Most of these unnamed grasses possess valuable medicinal properties and uses. As the traditional healers collect it from wild and they have got the knowledge regarding identification and uses from their ancestors, they feel that there is no necessity to name these grasses. Although the nomenclature is not necessary for them but for the researchers like me, engaged in documentation of traditional knowledge it is very necessary to get local names. To solve the problem of nomenclature, I have to visit with the traditional healers to the specific spots. As identification facilities regarding herbs particularly grassy and tuberous species are insufficient, I have to keep many herbs and valuable information in dump files till its correct identification. For the first time I observed *Elyonurus* and noted its traditional medicinal uses in the year 1994. Last year I got its correct scientific name. As a result the important information is coming among the world community after ten long years.

Botanically, *Elyonurus* is a slender, leafy annual; stem simple below, erect; Leaves linear, lanceolate, acute or acuminate, rigid; Racemes erect, embraced below by the spathe, pale-straw coloured or tinged reddish; sessile spikelet; lower in involucral glumes coriaceous, running out into a violet coloured bifid beak; lobes ciliate, linear; Awn purplish. It grows as Kharif (rainy) season herb in Chhattisgarh.

The traditional healers of Chhattisgarh use its all parts as medicine but leaves and roots are preferred. It is used as folk medicine in almost all parts of the state but it is used less commonly as compared to other grassy species. The traditional healers of Chhattisgarh Plains collect its leaves in bulk. After shade drying the leaves are crushed and in powder form kept for future use. This powder is added in popular herbal combinations used in treatment of diabetic carbuncles. According to the healers, *Elyonurus* leaf powder plays an important role in herbal

combinations and most of the combinations are considered incomplete without it. The traditional healers of Narharpur region suggest the patients having the problem of Bavasir (Piles) to wash the anus with the help of decoction prepared by boiling freshly collected roots of Elyonurus in water. It is considered specially suitable for bleeding piles. The healers have named it as "Poor man's remedy for Piles." Many healers recommend its internal use but as other promising alternatives are available it is used very rarely. The healers of Southern Chhattisgarh give emphasis on judicious use of Elyonurus as wrong or over dose can cause great harms. In reference literatures related to different systems of medicine in India, I have not found any detail regarding its medicinal properties and uses. It seems that above mentioned information is coming among the world community for the first time through this article.

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Traditional medicinal knowledge about less known species of Gorakhmundi (Sphaeranthus africans) in Chhattisgarh, India.

Gorakhmundi or Gudaria is a well known herb that grows as weed with winter season crops in Chhattisgarh. This fertility indicator herb is in use since generations as folk medicine. Its all parts are used as medicine both internally as well as externally in treatment of many common diseases. Although the researchers have declared it as a problematic weed but the Chhattisgarh farmers have kept it in the category of medicinal weeds. Every year this herb is collected in bulk as medicinal herb and supplied to national and international drug markets. In different systems of medicine in India, Gorakhmundi holds a reputed position. The scientific name of Gorakhmundi is *Sphaeranthus indicus*. *Sphaeranthus africans* is less known species of *S. indicus*. In different parts of Chhattisgarh it is known by different names but its common name is Sapat Gudaria. The word Sapat means flat. *S. indicus* possess branches with toothed wings. Sapat Gudaria can be distinguished by *S. indicus* by its branches having entire wings. Sapat Gudaria commonly occurs in forests. It is not a common weed of winter season crops. It prefers moist habitat and susceptible to dry conditions. *S. indicus* can tolerate these conditions without any problem. The herb collectors of Southern Chhattisgarh informed that Sapat Gudaria always grow in association of specific herbs. I am impressed by the unique observation of the herb collectors. With the help of Allelopathy, a new branch of science. I am trying my best to

establish the relation among Sapat Gudaria and associated herbs. A series of Ethnobotanical surveys conducted in different parts of Chhattisgarh focused on Sapat Gudaria revealed that very few traditional healers are aware of unique medicinal properties and uses of Sapat Gudaria. Most of the healers, aware of its natural occurrence in forests, consider it as inferior substitute to *S. indicus*. I have mentioned in previous articles that *S. indicus* is popularly used as tonic and aphrodisiac. It is an integral part of many popular herbal formulations. Also, all parts of *S. indicus* are used in treatment of troubles related to respiratory system. It is one of the promising remedies for Eosinophilia in Chhattisgarh. The traditional healers specialized in use of Sapat Gudaria informed that unlike *S. indicus*, it is used in treatment of other troubles. The aqueous paste prepared by crushing the whole herb with the help of stone, is considered as promising treatment of skin related troubles. The healers claim that this paste gives new life to the skin. Many senior healers of Gandai-Salewara region use the paste in treatment of wrinkles common in old age. The traditional healers of Northern Chhattisgarh use the whole herb in form of decoction in treatment of urinary system related troubles. It is also used in combination with other herbs. The traditional healers specialized in treatment of different types of cancer add the whole herb (except roots) of Sapat Gudaria in herbal combinations. The healers informed that it is not added for its anti-cancer properties. Its presence nullifies the harmful effects many promising herbs present in the formulations. This was new information for me.

As *S. indicus* grows as weed in abundance and very few healers are aware of less populated Sapat Gudaria, there is no threat on natural population of both species in Chhattisgarh. Through the on-going Ethnobotanical surveys, I am trying to get more information on Sapat Gudaria.

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Traditional medicinal uses of Mothatarva (*Cassia glauca*) in Chhattisgarh, India.

Although I have written a lot about *Cassia* species of Chhattisgarh but I was not much aware of *Cassia glauca* particularly its medicinal properties and uses. Few months back the herb vendors visiting to Maharashtra, a neighbouring state, gave me the herb named Mothatarva as a herb

having anti-diabetic properties. In return, I informed them about many potential herbs having similar properties. As a result, the herb vendors disclosed that the natural forests of Chhattisgarh are also rich in wild population of Mothatarva. Later, through literatures I identified it as *Cassia glauca*.

Its bark is used in treatment of diabetes. Bark is used in different ways based on the severity of trouble the patients are having. At initial stages, the bark is given in powder form with cow milk. At advanced stage, instead of powder, the decoction of bark is given internally. Its long term use is not preferred. When I asked the traditional healers of Chhattisgarh Plains about this herb, they replied that Mothatarva is not suitable for everyone and it can be used upto limited period. These healers use the leaves of this herb in treatment of sexually transmitted diseases. They claim that there are many promising alternatives of Mothatarva bark, available with them that can be used successfully in treatment of diabetes. The traditional healers of Southern Chhattisgarh are fond of the wound healing properties of its leaves. They add the leaves in popular herbal combinations used externally to wash cancerous wounds. According to the healers, it plays an important role in the combination. The herb collectors of Pendra region claimed that many traditional healers ask for its roots. I am trying my best to contact these healers in order to get details regarding the use of roots. In reference literatures related to different systems of medicine in India, surprisingly not much has been written on medicinal properties and uses of this common herb.

The cattle owners of Chhattisgarh Plains have invited me in coming rainy season as they use Mothatarva as veterinary medicine. According to them, it is used both alone and in combination with other herbs effectively in treatment of common as well as complicated diseases.

I am satisfied with the new information about *Cassia glauca* as my list of the herbs having anti-diabetic properties is growing very fastly.

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Are periodical Cicadas exist in Chhattisgarh, India ? : Interactions with the traditional healers.

Last week, with amazing information about emergence of periodical Cicada population in United States of America, when I reached to the traditional healers of Chhattisgarh, specialized in use of medicinal insects, the healers not showed much surprise to hear about the insect species that appears in every 17 years and scientists have given it a name Brood X. I showed them the coloured photographs downloaded from internet. You will be surprised to know that most of the healers claimed that these periodical Cicadas are not only present in Chhattisgarh but it is in use as medicinal insect. I got opportunity to interact with the senior traditional healers those have used the Cicadas as medicine twice or thrice in their lives. Around the world many species of Cicadas exist. I searched the reference literatures regarding occurrence of periodical Cicadas in Chhattisgarh but unfortunately no work has been done on this important aspect earlier. After seeing the coloured photographs of *Magicicada septendecim*, *M. cassini* and *M. septendecula*, the healers informed that not exactly same but similar species are present in Chhattisgarh. Last week I was with the traditional healers of Southern Chhattisgarh. They claimed that the Keshkal valley is rich in Cicada population. The senior traditional healers of this region claimed that many wild animals particularly monkeys are fond of eating these periodical Cicadas. They further informed that when at the interval of several years these Cicadas appear, on the next year the population of monkeys increases remarkably. The healers associate this observation with the aphrodisiac properties of these insects. In general the insects are ephemeral. The long life of Cicada motivates the healers to consider it useful as medicine having anti-ageing properties. Most of the healers were unanimous regarding its aphrodisiac properties but very few have confirmed about its use or anti-ageing properties. During emergence the Cicadas make special sound, the senior traditional healers of Kanker region claim that this specific sound is beneficial for the patients having mental troubles.

As at present the scientists around the world are talking about the Broad X that will appear in America in few days, I personally feel that it is very important to present the information about the periodical Cicada present in Chhattisgarh among world community. As mentioned earlier, I have very preliminary information and I have interacted with very few healers but I am considering it as new field that requires special attention. Through this article I would like to request the Ethno-entomologist in America to collect these insects in order to evaluate its

medicinal properties. Also there is a need to keep close view on the behavior of other animals, particularly monkeys, towards these periodical Cicadas.

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Traditional medicinal knowledge about Gahun Bhusa (Wheat Bran) in Chhattisgarh, India.

Wheat is grown as rainfed crop in Chhattisgarh. Although rice is the main food for the natives but wheat is also popular among them. The traditional healers of Chhattisgarh consider the Wheat as medicinal herb. They use the juice of newly emerged seedlings in Jwara Chikitsa. I have written a lot on this aspect in my previous articles. Although for the natives specially the cattle owners, Gahun Bhusa (Wheat Bran) is not more than a cattle feed but during the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers are not only aware of medicinal uses of bran but also they are using it in their routine practice. The healers of different regions use it for different purpose. Wheat Bran is used both internally as well as externally in treatment of both common and complicated diseases.

The traditional healers of Chhattisgarh Plains consider it as promising blood purifier. The patients having the problem of skin related troubles are suggested by the healers to take few pinches of bran daily with Shahad (Honey). It is also given alone without carrier. The traditional healers of Kanker region use the bran in same way in treatment of respiratory troubles. According to the traditional healers it acts as both curative and preventive to respiratory troubles. I have successfully tried it in many such cases. The healers are not in favour of its use in larger doses. The traditional healers of Southern Chhattisgarh boil the bran and wheat leaves in Sarson (Mustard oil) and when all watery contents evaporate the boiling is stopped and special oil is stored for future use. In times of acute attack, the lukewarm oil is massaged on chest in order to provide great relief to the patients. The healers claim that both internal as well as external uses of Wheat Bran at a time roots out the trouble effectively in very less time. During high fever the traditional healers of Nagri-Sihawa region suggest the patients to apply

the combination of Noon (Salt) and bran in form of aqueous paste all over the body. This application helps in reducing the high temperature. It also opens the pores present on skin and increase the amount of perspiration that results in normal body temperature.

The bran of organically grown wheat is considered suitable for the preparation of medicine. In general, the traditional healers having expertise in use of bran, grow wheat at their home gardens and collect its different parts as per need and use it round the year. You will be surprised to know that the Wheat growers of Chhattisgarh are not much aware of its medicinal properties and uses.

Besides, in cattle feed shops, Wheat Bran is also available in local herb shops as medicine. Although there is a poor demand of this bran but the shop owners informed me that on the recommendations of the traditional healers, many patients, particularly of urban areas, purchase it from their shops. As other promising and effective herbal alternatives are available, the use of Wheat Bran is loosing popularity among the healers. This observation encouraged me to document the important traditional medical uses of Wheat bran without any delay.

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And Final War (Against Parthenium) has started.

'The government must take action to manage the obnoxious weed Parthenium in wastelands. After all, it is a matter of public health. The public should identify the Parthenium, as it is a common weed present in surrounding in abundance. Get free information about all aspects of Parthenium by writing a letter to Society for Parthenium Management' etc. Tired of all these continuous efforts, from 13th April, 2004, I have declared a final war Against Parthenium and with my filed assistant started Parthenium management programme at field level with manual sprayer. I am aware that alone I can not cause much harm to this obnoxious weed but I am on road, with the hope that the natives will follow me and assist me in this final war.

As a convener of International Parthenium Research News Group (IPRNG), I am aware of many methods of Parthenium management. Out of these methods I preferred the use of Salt solution as a tool for this final war. I am using 20 percent salt solution. The salt not preferred for human consumption and available in low rates, is in use in this campaign. I am spraying the salt solution directly on the Parthenium herb particularly on its flower. I am aware that the application of salt solution near the base will be an effective control method but I do not want to make the soil salty. The salt solution is very effective as within 8 hours of application it destroys the plant completely. The hot summer days are helping in this campaign. In this hot summer very few small herbs can be seen in Chhattisgarh but Parthenium is growing luxuriantly without any harm. After the application of salt solution, the sun rays help in killing the plants effectively. The cost of salt is 250 Rs. (Approx US \$ 5) per quintal. As it is my personal war (?), I am investing for the salt, worker and the sprayer. The preparation of salt solution is very tough job. I crush the salt into fine powder at night and dip it in water overnight. Next morning it is sprayed through sprayer. At present I am giving three hours for this campaign, one hour at morning and two hours at evening. The salt solution of lower concentration is also effective. Its spray on flowers, stops its further infestation through seeds, although the solution of lower concentration fail to give any killing effect on existing herb. At present we are covering half kilometer per day. During the campaign, we distribute information brochures and inform the natives about all aspects of this obnoxious weed.

Initially we got very poor response. Many times understood us as field workers appointed by local authorities to spray anti-malarial chemicals in sewage lines. But now we are getting not only good responses but also cold drinks and coffee, when we reach to different homes. Many natives have promised to accompany in this war with their own sprayers and salt solution.

I am surveying the areas for Parthenium infestation and getting depressed that at this speed I have to fight very long war. I have noted that the infestation of Parthenium is incredibly high in wastelands. In residential colonies, the Parthenium is entering through road construction materials and garden soil, collected from infested areas. Unfortunately, like developed countries we have no strict rules to avoid this entry.

We are destroying hundreds of Parthenium herb daily. My field worker Shri Durjan is very emotional. On the very first day he asked darely that the God will punish him in hell for killing thousands of Parthenium herbs. When I informed him that about potential harms of this weed on the health of human beings, animals and other plants, now he is eager to destroy this weed by giving additionally one hour for this campaign.

Keep reading my articles as I will dispatch the new information and experience continuously from war zone.

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Commercial cultivation of Wonder Crop Safed Musli (*Chlorophytum borivillianum*) : Some new observations.

This is hot summer month of April, 2004. Last year the heavy rainfall in different parts of India including Chhattisgarh, damaged the Safed Musli crop to the great extent. Many farmers faced much damage. For real-estimation of yield loss, April is the best month when most of the farmers dig their field to collect Musli tubers. Without loosing this golden opportunity of loss estimation, I am visiting to different Safed Musli growers.

The Safed Musli growers of Chhattisgarh Plains informed that this year, the crop multiplied only two-three times. It is a condition of crops raised by using chemical inputs. The yield of organically grown Musli is very less. In general, Safed Musli multiply five times and in hi-tech farming it multiplies upto seven to eight times. The farmers are satisfied with this poor yield because majority of the farmers have lost the crop completely. When I asked the farmers why their crops are safe. They give full credit to the Agronomical practices adopted sincerely by them.

Shri Deen Dayal Verma of Tilda region showed me the specific plot which was submerged in water upto 24 hours. In other plots, the same level of submergence damaged the crop seriously. As Agriculture scientist, I am aware of importance of tubers collected from this unique plot. These resistant tubers can be very helpful in development of new submergence resistant varieties of Safed Musli. I have instructed him to keep it safely and if possible, raise it in isolation as new selection. At present, not a single institution is engaged in development of Safed Musli varieties in India. I have kept such germplasm safe for future.

The Safed Musli growers of Southern Chhattisgarh informed that the Safed Musli crops raised by seeds showed more resistance as compared to the crops raised by tubers. This was new information for me. The farmers of Kanker region are showing more interest in Musli seeds as propagation material. I have observed that now the planting material suppliers are selling the individual finger instead of selling the tubers with many fingers by weight. This is profitable for the sellers not for the buyers. The suppliers are claiming that size do not matter. Taking advantage of this quote, many farmers are selling the poorly developed fingers of Safed Musli (of first year) at fairly high rates. If this trend will continue, as it seems, I am confident that very soon the farmers will use more seeds than tubers for propagation.

Many farmers are worrying about increasing infestation of rot disease in crop fields. They are in search of organic alternatives for its prevention. This is good sign that taking advantage of hot summer, many farmers are adopting soil solarization method. The Musli fields covered with Black Plastic sheets are now visible in many parts of Chhattisgarh.

My visits are in progress and you will find more information in coming articles.

Commercial cultivation of medicinal crop Gulbakawali (*Hedychium coronarium*) : The results of recently conducted experiments in Chhattisgarh, India.

The cultivation of Gulbakawali is at very initial stage in Chhattisgarh. The innovative herb growers have started different field experiments in order to standardize the Agronomical practice of this crop. As usual, the Agricultural researchers are not taking any interest in this regard. The farmers are conducting the experiments by their own expenses. Fortunately, I am associated with these farmers and helping it the field trials.

The initial trials at Chhattisgarh Plains revealed that Gulbakawali multiplies at the rate of twenty five times each year under organic cultivation. Shri Deen Dayal Verma, a well known herb grower of Chhattisgarh, informed that the multiplication rates can be increased many times through chemical inputs but the use of chemical inputs reduces the quality of oil. The farmers are using Farm Yard Manure before sowing and Green spray, prepared by mixing cow urine, cow dung and specific herbs, in standing crop as organic inputs. In Southern Chhattisgarh, Gulbakawali has performed well but the rate of multiplication is relatively less. The farmers blame the acidic soil for this slow multiplication. In Northern Chhattisgarh, instead of acidic soil, the Gulbakawali multiplied more as compared to Gulbakawali of Southern Chhattisgarh.

The farmers informed that the Research and Development units of many pharmaceutical companies are taking keen interest in Gulbakawali oil. Many of these companies have collected samples. I have mentioned in previous articles that the Chhattisgarh farmers mix flowers and water in 1:2 ratio to extract the oil. They are adopting the indigenous method of oil extraction.

The traditional healers using the Gulbakawali oil collected from farmers are very satisfied with its performance. The traditional healer of Mudpar village claimed that it is not wrong to name it as Bright eye herb as through it he has cured many cases of poor eye sight successfully. The traditional healer of Dashapal village is also using this oil successfully. The traditional healers of Gandai-Salewara region are using this oil with Mamira (*Coptis teeta*) and Bheemseni Kapoor (Camphor) for eye related troubles. For Mamira and Bheemseni Kapoor, they are dependent on local herb shops where adulteration is common practice. This is the reason, the healers are preferring the use of oil alone. Many industrial houses have shown interest in systematic clinical

trials for this oil. They are encouraged and much impressed by the results, the healers are getting.

Although at present no infestation of disease and insect on Gulbakawali crop has been observed but as precautionary measure the farmers are trying well tested herbs in order to select the potential herbs safe for the Gulbakawali crop. In case of any infestation, the farmers will try these potentially safe herbs against the insect or disease.

In order to observe the nature's experiments in forests, now the farmers are trying to arrange frequent visit to these regions. I am trying to make an association of Gulbakawali farmers for better interaction and discussion.

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Effects of plastic mulches on Safed Musli (*Chlorophytum borivilium*) crop : Some observations from recently conducted experiments at farmers fields in Chhattisgarh, India.

Shri Deen Dayal Verma, a well known Safed Musli grower of Chhattisgarh is using plastic mulch successfully in commercial cultivation of Safed Musli since last two years. He covers the bed prepared for cultivation by plastic sheets right from starting of cultivation. By making round holes, the Musli tubers are sown. The other parts of bed remain covered with plastic sheet. Shri Verma is fond of this technique. According to him, the use of plastic much helps in managing the weed problem. I have mentioned in previous articles that due to good rainfall zone, the weed species grow luxuriantly in crop fields of Chhattisgarh. As the use of Chemical weedicides is restricted in commercial cultivation of medicinal and aromatic crops, the farmers are dependent on hand weeding. Due to nearness of metros, many farmers like Shri Verma, are facing the

problem of labour shortage. The farm workers demand for higher wages. In general the farmers have to perform hand weeding operation in every fifteen days. Under this problematic condition, the use of plastic mulches is not only saving the cost of hand weeding operations but it is very simple to use.

As I always write in my articles that the real scientists are the farmers who invest most of their time in fields. After getting the technology of plastic mulches, now the innovative farmers have started new experiments. The Safed Musli farmers of Kanker region tried black coloured plastic sheets in place of transparent sheets last season. They informed that upto one month, black sheet resulted in effective weed suppression but later, possibly due to high soil temperature, it started damaging the Musli tubers. After taking permission with them, I decided to inform the other Musli growers about this unsuccessful experiment so that the farmers can learn some new lesson from this failure. The farmers of Kanker region informed that they are in search of such plastic sheets that can change its colour from black to transparent after one month as it is not possible to replace the sheets during cultivation. Many of them have answer of it. They are using the poor quality black sheets. According to them, due to poor quality, its colour fades automatically within month. But the use of poor quality plastic sheet is having its own limitations. Due to high wind and the rough feel conditions, many times these sheets damage the Safed Musli plants and tore automatically.

The Safed Musli farmers of Chhattisgarh Plains complained that it is not effective against hydra-headed Motha (Cyperus species). In fields having heavy infestation of this obnoxious weed, the farmers avoid the use of plastic sheets. I see it as a new challenge for the researchers engaged in promotion of plastic in Agriculture. I am confident that if we get the new use of plastic by which Motha can be suppressed successfully, the farmers will adopt it without much extension work.

The Safed Musli farmers of Southern Chhattisgarh claim that the red coloured plastic sheets perform very well in Safed Musli fields and it is the best colour. I have yet not seen this experiment. I am planning to visit the region, in next cropping season. Meanwhile, I am searching the scientific literatures having details regarding use of red coloured plastic sheets on plant growth.

Instead of making round holes in plastic sheets for sowing of Safed Musli tubers, Shri Deen Dayal Verma is planning to make square strip in width. Many times round holes result in tearing of sheets. The square cutting will be very helpful in this regard- Shri Verma told me confidently. From this planting season, he will try this method in field.

I am keeping close view and taking keen interest in research activities of these real scientists. Lets hope, for some more new information in near future.

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Bore : A Unique traditional food for hot summer in Chhattisgarh, India

Like for rich bio-diversity, Chhattisgarh is also known for its hot summer days and hot wind, locally known as Loo. In April, May and June months, the hot summer disturbs the lives of common natives. Due to decrease in forest cover and because of increasing industrialization and urbanization, the Plains of Chhattisgarh are becoming hotter year by year. This year the natives have experienced the same intensity of sun in March. The Southern and Northern regions of the state are relatively cooler but due to deforestation, these regions are also becoming hot. Every year due to 'Loo' many natives get health troubles and loose their lives. I have observed that the percentage of attack is higher among the natives living in urban and semi-urban regions. In rural regions, the natives continue their hard work under harsh sun without getting sunstroke. The traditional foods play important roles in their protection. Bore is one of the these popular traditional foods.

Chhattisgarh is known as "Rice bowl of India" due to extensive rice farming. Rice is under cultivation since generations. Bore is prepared by using Bhat (Cooked Rice). In early days, Bore was popular as traditional food in every household but due to modern life culture now its use is limited to poor natives and among the natives of rural regions. It is not wrong to say that the poor natives are consuming more healthy foods than the rich communities in Chhattisgarh. The

method of preparation of Bore is very simple. The cooked rice is taken and cold water is added in it. The combination is kept as such overnight. Next morning, before starting for field work the natives consume the combination. Many times, the natives consume it during lunch time. According to the traditional healers, after one night the combination i.e. Bore when consumed, helps in keeping the body cool in hot summer days. It plays an important role in maintaining the heat balance of the body. Its consumption during summer days results in sound sleep. According to the economical status of the natives, the natives consume Bore with different food materials. Bore is consumed generally with Noon (Salt). Ama Ke Athan (Mango pickles) give good taste to it. I prefer this preparation with Dahi (Curd), but the use of Dahi daily is beyond the reach of all poor natives in Chhattisgarh. It is common belief among the natives living in urban areas that the consumption of Bore results in dizziness and drowsiness. But it is not true. In hot summer it is very difficult to pass an hour under sun but the natives plow and perform other field operation with the help of bullocks and traditional agricultural tools, whole day without any complaint. Without hesitation they give full credit to the Bore.

The Ethnobotanical surveys conducted in different parts of Chhattisgarh revealed that in early days, the Bore prepared from medicinal rice varieties were in use in the state. But unfortunately, the knowledge, the healers and the medicinal rice varieties, all have become the things of past. The Bore prepared from medicinal rice varieties is not in use in any part of the Chhattisgarh.

This year when I discussed the owners of many star hotels regarding the herbal dishes of Chhattisgarh, they showed interest in dishes and food preparation having health benefits. Fortunately, the name of Bore is present in the favorite food list. They are trying their best to make these preparations more delicious for the present generation living in urban areas, with precaution so that it will not lose the beneficial properties.

I am feeling proud to inform the world community about this food preparation through the present article, as this traditional food is increasing my efficiency during the Ethnobotanical surveys that are still in progress in this hot summer.

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Unique traditional medicinal knowledge about Judva Rukh (Twin Trees) in Chhattisgarh, India.

Although it is rare to find the trees of Pipal (*Ficus religiosa*) and Bar (*Ficus benghalensis*) growing together from one trunk but the natives and traditional healers of Chhattisgarh are well aware of its unique traditional medicinal uses. I am not aware what the science have to say about this unique combination but according to the senior traditional healers it is rare combination and many tribes of Chhattisgarh worship this Twin and ready to sacrifice their lives in order to protect the Twin Trees. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have spotted only ten such Twin Trees of Pipal and Bargad. One Twin Tree is at the heart of Raipur city, the capital of Chhattisgarh.

Pipal and Bar both trees hold reputed positions as medicinal plants in different systems of medicine in India. I have written a lot about these trees in my previous articles. Both Pipal and Bar belong to genus *Ficus*. Botanically they are from same family. This classification is done by the human beings. But it seems that the Twin Trees are aware of this classification.

Through the surveys, I have noted that the traditional healers of Chhattisgarh Plains are less aware of its importance than the healers of Northern and Southern parts. The traditional healers of Southern Chhattisgarh disclosed that if in Twin Tree Bar is at base and Pipal is at top, then the Twin Tree is considered as Super Pipal Tree having extra ordinary qualities and having the medicinal properties of more Pipal less Bar. The top position show the dominance. Similarly, When Bar is at top and Pipal is at base, it is considered as Super Bar Tree with same properties. Out of Ten Twin Trees, mostly belong to Super Pipal Tree category. It means the occurrence of Super Bar Tree is more rare phenomenon in nature ? The traditional healers of

Northern hilly regions informed that it is true. The healers further informed that the early traditional healers were more aware of its medicinal properties and uses but as Twin trees are very limited in number and the natives worship it and don't allow to collect the plant parts in bulk, the traditional healers of present generation are using it very rarely. The traditional healers of Gandai-Salewara region claimed that they tried to prepare the Twin Trees in artificial conditions but failed to prepare the Twins of same potential, produced by the mother nature.

The traditional healers of Keshkal valley region informed that the insects and birds feeding and living in these Twin trees are considered as potential medicine and preferred as medicine. They claimed that it is a natural power of these twin trees that very few insects and birds dare to reach these trees. The natives engaged in Tantra activities, believe that under these twin trees all evil spirits loose its power. This is the reason the natives caught (?) by these evil spirits are advised by them to pass one whole day under these special trees.

I am aware that ten is very small number in big state like Chhattisgarh. Through the on-going Ethnobotanical surveys. I am trying my best to gather more information about new spots. The barks collected from Super Pipal and Bar trees have been collected from Chhattisgarh plains and with the help of my Bio chemist friend, we are in process of its chemical analysis. The initial studies have shown that the healers claim of Super trees is not wrong. You will find the details in coming articles.

When I consulted the botanist friends around the India regarding these Twin Trees, they assured me to help in identification of such spots in different parts. I have also requested them for Ethnobotanical surveys in their regions. Like typical intellectuals, we have decided to form a forum named "Twin Tree Society" in which the scientists and healers both will play important roles.

May I expect the same support from international community ?

Traditional medicinal uses of Salparni (*Pseudarthria viscida*) in Chhattisgarh, India.

In Chhattisgarh, many medicinal herbs are used to develop natural resistance inside the human body because in general, the healers believe that prevention is always better than cure. In almost all parts of Chhattisgarh the traditional healers use Salparni for this purpose. In different regions it is known by different names. Salparni is its Hindi name. Salparni holds a reputed position as medicinal herb in different systems of medicine in India. The whole plant is used in biliousness, rheumatism, excessive heat and fever, asthma, heart diseases, piles and worms. In reference literatures, its internal uses have been described in detail and it is mentioned that externally it is used rarely. The traditional healers of Chhattisgarh use it externally in majority of the cases and internally in rare cases. Through the Ethno-botanical surveys conducted in different parts of Chhattisgarh, I have collected many information on this aspect.

The purpose of its external use is to protect the body from all infections. All entry points of body are made infection free with this herb. The traditional healers of Chhattisgarh Plains explained that in early days they were giving the special treatment to the small children once in a month, upto 5 years of age, using this herb in order to protect them from evil spirits as well as from diseases life long. For external use, the herb is used in many ways. Its use in form of decoction is very popular. During special treatment the small children are given a decoction to use it as water during bath. After bath they are instructed to stand in open sunlight and after drying, wash the body again with this decoction. The process is repeated upto ten times. After this treatment, the aqueous paste prepared from many herbs is applied all over the body. In this paste, Salparni plays an important role. After skin treatment, the decoction of whole herb is given for gargle. By boiling the whole herb in Sarson (Mustard seed) oil, the healers prepare special oil for this occasion. Few drops of this oil is applied into the ears after cleaning the mouth. This oil is also smeared on genitals and as well as on anus, all possible entries. By crushing the leaves of Salparni, the healers prepare an aqueous paste. This paste is applied on eye lids, with precaution to restrict its entry into the eyes. According to the healers this application absorbs extra heat from eyes. On treatment day, the food is served in platters prepared of this herb. The children are advised to pass time around this herb. At night, the beds are prepared using the leaves. One whole day with Salparni is having special effects on human body that remain within upto one month. The healers still remember that in early days the small members of Royal families from different parts of Chhattisgarh were taking this special treatment as this costly but

effective use was beyond the reach of common natives. Today, unfortunately, we have very few healers who have given this treatment. It is not in use in present time. During the interactions with these healers, I have clearly seen the shining in their eyes. They were surprised to know that the representative of modern generation (i.e. myself) is taking keen interest in this ancient knowledge. The detailed information on this special treatment encouraged me to inform the world community about it without any delay.

According to the reference literatures, botanically Salparni (*Pseudarthria viscida* syn. *Hedysarum viscidum*) is a prostrate or climbing, viscid pubescent under shrubs, 30-90 cm long; Leaves pinnately 3-foliolate, rachis about 10 cm long; Leaflets 4-9 x 3.5 - 5.0 cm, rhomboid, obtuse or acute, membranous; Flowers in pairs or fascicled in terminal or axillary about 20 cm long racemes; Corolla pink, twice or thrice as long as the calyx; pods 15-20 x 4-6 mm linear, oblong, fate, viscid, 4-6 seeded.

Once any person starts getting infection, according to the traditional healers of Chhattisgarh, its external uses fail to show the miraculous effects . In such cases, Salparni is used internally. The internal war is very difficult to win completely - they added. I am surprised to know their in depth knowledge.

Salparni herb is growing in abundance in Chhattisgarh forests but daily we are losing the experts having traditional knowledge about this important herb. We have lost many of them but it is a matter of satisfaction that atleast we have documented a big part of their knowledge. The process of documentation is still in progress.

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Soybean (*Glycine max*) as medicinal herb in Chhattisgarh, India.

According to the book titled 'Modern techniques of raising field crops' by Dr. Chhida Singh,' Soybean possess a very high nutritional value. It contains about 20 percent oil and 40 percent high quality protein. Soybean protein is rich in the valuable amino acid lysine (5 %) in which most of the cereals are deficient. In addition, it contains a good amount of minerals, salts and vitamins and it sprouting grains contain a considerable amount of Vitamin C. Vitamin A is present in the form of precursor carotene which is converted into Vitamin A in the intestine.' Soybean is having many industrial uses also. This is the reason it has established as wonder crop.

Soybean was introduced in Chhattisgarh few years back as potential upland crop. At present it is under cultivation in fairly large areas. Due to the problematic rust disease, that has attacked the commercial crop severely two years back, the farmers are now growing it with full precaution. Many reference literatures support the claims of traditional healers of Chhattisgarh that it is present in wild, in isolated patches, since time immemorial. Possibly, this is the reason many senior traditional healers recognize it as medicinal crop. They are not much interested in modern research findings about medicinal uses and health benefits of Soybean seeds.

According to them the use of Soybean seed as food material is not according to the nature (Tasir) of every person. You will be surprised to know that in Chhattisgarh Soybean roots are considered as promising folk medicine. The roots are used in dry and fresh form both internally as well as externally in treatment of many common diseases. The healers have special precautions for the selection of potential roots. The roots collected at vegetative stage are considered best. The roots growing in North direction are preferred. The cultivated fields in which agrochemicals are in use, are not considered suitable for the collection of roots. The traditional healers of Southern Chhattisgarh tried to explain the correlation between the emergence of leaves with the medicinal properties of roots. According to them, as the number of leaves increases the specific medicinal properties in roots also increase but upto certain point. By this traditional knowledge the traditional healers identify the herbs having potential roots from surface. Through intensive visits to these healers, I am trying my best to gather more information on this important aspect.

The nodules found in Soybean roots are collected by the traditional healers. After drying, they convert it into powder. This powder is added in popular herbal combinations used as female tonic. In small amount it is considered as promising supplement in Anaemia. The traditional healers are aware that overdose or its wrong use can cause great trouble. The traditional healers of Chhattisgarh Plains use both fresh (externally) and dry (internally) roots in order to stop the bleeding. The fresh roots are applied as first aid measure directly on affected parts. Many times the soil near to the roots is also used for the same purpose. Internally, the roots are added in powder form, in popular herbal combinations used for this purpose. Many healers

claim that the root possess promising wound healing properties and can be used in complicated cases successfully.

These traditional medicinal uses of Soybean roots have yet not been reported in reference literatures. Soybean is one of the major field crops around the world. It is not under cultivation as medicinal crop. I am confident that the traditional knowledge about this herb will be of great importance and value for the researchers around the world, engaged in research work based on potential utilization of Soybean.

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Pisa (*Actinodaphne hookeri*) as potential anti-diabetic herb in Chhattisgarh, India.

While compiling the information about herbs having anti-diabetic properties from my field diaries, I found the name of Pisa. Earlier I have kept this herb in the category of unidentified herbs. In many parts of Chhattisgarh, it is also known as Jharchampa. According to the reference literatures, Pisa is a moderate sized evergreen tree found in many parts of India. Its seeds yield about 48 percent fatty oil. It is also the source of lauric acid. Although it is common herb in all parts of Chhattisgarh but I have found the eastern regions more rich in its natural population. The traditional healers of this region are also more aware of its medicinal uses and properties. Through the Ethno-botanical surveys conducted in different parts of Chhattisgarh, I have identified over thirty five traditional healer using this herb in treatment of diabetes.

In reference literatures related to different systems of medicine in India, the use of its leaves, internally in treatment of diabetes is mentioned but the traditional healers of Chhattisgarh give equal importance to the roots also. In form of dry powder the leaves and roots are given internally to the patients. At initial stages its powder is used alone but at later stages it is given in combination with other herbs. This herb is very popular among the traditional healers. Its popularity clearly indicates its efficacy.

The traditional healers of Chhattisgarh Plains use the leaves of Pisa, internally in order to remove extra heat from human body. It is used popularly to treat the diseases resulted from excessive body heat. The healers are also aware of its use in treatment of troubles related to urinary system but as other promising herbal alternatives are available it is used less commonly. From documentation point of view it is an important information.

The seed oil is used in treatment of rheumatic pain. The oil is massaged externally on painful parts. In order to increase the efficacy of seed oil the traditional healers of Southern Chhattisgarh boil the Nirgundi (*Vitex negundo*) leaves in this oil. When all watery contents evaporate the boiling is stopped and special oil is used in same way. The use of this special oil has yet not been reported reference literatures.

The name of Pisa is not present in the list of medicinal herbs of Chhattisgarh having high demand at national markets. The herb traders and vendors are aware of its promising uses. They collect and supply it to the traditional healers of neighbouring states. I have also seen the special oil with the herb vendors.

I am much impressed to see the practical use of Pisa in treatment of diabetes. I personally feel that there is a strong need for systematic research on this herb without further delay.

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Kadu-Bela (*Corallocarpus epigaeus*) as medicinal herb in Chhattisgarh, India.

A group of botanists and herb experts have declared Kadu-Bela as endangered species in Madhya Pradesh and Chhattisgarh states of India and at the same time the field workers who pass their most of the time near to the wild herbs, claim that Kadu-Bela grows as weedy species, very common every where. If you are in search of true information then believe on the field workers. The group members claim that this herb is reported in Shivpuri region only. As it is not mentioned in reference literatures on flora that it is a common herb, they are not ready to accept the claims of field workers. Unfortunately, I am also a member of this group. During the meeting conducted in July, 2003 at Bhopal, I strongly opposed the statement by saying hard words that the most of the members declaring it as endangered herb, are in fact unaware of its correct identification. You can imagine the situation that now the authorities are planning to invest funds to protect and conserve this so called endangered species, i.e. more wastage of fund, time and efforts.

Kadu-Bela is a climbing herb common not only in Chhattisgarh but also in other states of India. Dr. M. M. Bhandari has mentioned in his famous book titled 'Flora of the Indian Desert' that it is a common plant throughout the area, growing particularly on Euphorbia species. In Rajasthan, it is known as Kadawi-nai. The natives and traditional healers of Chhattisgarh recognize it easily by its local name Kadu-Bela. Kadu means bitter and Bela means climbing herb. According to the reference literatures related to Botany, Kadu-Bela is a perennial, climbing herb, from a large, turnip-like tap root; stem solitary, ultimately near base 1 cm thick; leaves much variable in size and shape, slightly broader than long, pubescent with short, aculeate hairs, lobes usually lobulate, obtuse, rarely apiculate, margins entire or more or less irregularly denticulate, rounded at base; Male flowers 4-15, Corolla yellowish-green; Female flowers solitary or fasciculated; Fruit on 1-1.5 cm long, thick, glabrous, sulcate penduncles, ovoid or ellipsoid; seeds embedded in orange pulp, puriform, turgid, brown.

In reference literatures the uses of roots in treatment of dysentery and rheumatism are mentioned. The traditional healers of Chhattisgarh are aware of these uses. The roots are used

in many ways. The use of roots in form of aqueous paste externally is most common. The paste is applied on affected parts. In general, it is used as supplement treatment with main treatment of rheumatism. The traditional healers of Southern Chhattisgarh boil the freshly collected roots in Sarson (Mustard) seed oil and when all watery contents evaporate the boiling is stopped and after filter, the oil is kept for future use. This oil is considered more promising than the aqueous paste. The traditional healers of Chhattisgarh Plains use the dry root powder as main ingredient in popular herbal combination used in treatment of stomach upset. The traditional healers of Bag bahera region are fond of its anti-diabetic properties. They add the root bark in herbal combinations. According to them, most of the formulations used to treat diabetes are incomplete without Kadu-Bela. In reference literatures, this important information has yet not been reported.

The name of Kadu-Bela is not present in the list of medicinal herbs of Chhattisgarh having demand in national markets. The herb traders confirmed this information. The herb collectors and herb vendors collect it in small quantities to fulfill local demand.

Through the on-going Ethnobotanical surveys, I am trying my best to gather more information on this herb.

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My experience with Jamalghota (*Croton tiglium*) in Chhattisgarh, India.

Since childhood, I am aware of purging properties of Jamalghota. When I was at school, our seniors were using the seeds of Jamalghota to hurt the teachers. Tired with these activities, our principal sir rooted out all the Jamalghota herbs from school campus. Due to these activities of

our seniors, our teachers refused to take any sweets from us upto long time in Fear of adulteration of Jamalghota seeds. Later when I started observing the medicinal herbs in surrounding, I recognized this herb as a promising medicinal herb. The great thing is that Jamalghota is common Homoeopathic drug. I tried in successfully many times in my life.

According to the reference literatures, Jamalghota is a shrub or small tree, native to South-East Asia. It is under cultivation in many parts of India. The senior traditional healers claim that this herb has been introduced in Chhattisgarh few decades back as potential medicinal herb. Later it has escaped from cultivated fields and today it grows as common wasteland herb. There are many traditional healers with claims that this herb is present in the state since time immemorial.

Jamalghota holds a reputed position as medicinal herb in different systems of medicine in India. Its fruits and seeds are used most commonly but the traditional healers use its all parts as medicine. According to Ayurveda, the fruits and seeds are purgative. The oil from seed is purgative, carminative and useful in treatment of mental troubles, convulsions, abdominal diseases, fever, insanity, inflammations, bronchitis etc. According to the Unani system of medicine, seeds cause burning sensation. It is cathartic and emetic and good in sore eyes, excessive phlegm and leucoderma. The oil is cathartic, tonic, removes pus and impurities from the human body. According to the reference literatures of Homoeopathy, the Homoeopathic drug *Croton tiglium* affects mucous membrane of intestinal tract, producing transudations of watery portions of blood, a copious, watery diarrhea and develops an acute eczema over whole body. The bowels are moved as if by spasmodic jerks; 'coming out like a short', as soon as patients eats, drinks or even while eating; yellow watery stool. This Homoeopathic drug is prepared from Jamalghota seeds.

Among the all herb based purgatives, the traditional healers of Chhattisgarh use Jamalghota more commonly. It is mentioned in reference literatures that the roasted seeds of Jamalghota when burnt and fumes are directed to the respiratory tract, it helps in getting rid from these troubles. The traditional healers of the state, prefer the use of whole herb in place of seeds in order to get more promising results. They explained that the fumes of roasted seeds are not suitable for everyone whereas the whole herb can be used successfully without any problem. The traditional healers of Chhattisgarh boil the whole herb in base oil and when all watery contents evaporate the boiling is stopped and after filter, it is kept for future use. This oil is used through massage. When this oil is used for the patients having Mirgi (Epilepsy), as base oil Til (Sesame seed) oil is used whereas when it is used for the treatment of joint pains, as base oil

Sarson (Mustard seed) oil is used. This special oil is not used internally. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh. I have seen this special oil with the herb vendors. Its popularity in the state, clearly indicates its efficacy.

In herb markets, many herbs are available in the name of Jamalghota. Among these herbs, the high priced seeds are of *Jatropha curcas* and *Croton tiglium*. Both seeds can be differentiated easily through visual observation. In many places, *Jatropha* is known as Bhagrenda also. The herb traders of Chhattisgarh have confirmed that the Jamalghota seeds are present in the list of medicinal herbs having fair demand in national markets but they disclosed that the other states play a major role in supply of these seeds. They are aware of the traditional uses of whole herb but in trade only seeds are having the demand.

The innovative herb growers of Chhattisgarh engaged in organic cultivation are much impressed with the insect killing and repellent properties of this herb. They have found it very promising in commercial cultivation of Chandrashoor (*Lepidium sativum*). The experiments and field trials on other medicinal and aromatic crops are in progress.

For the natives who have experienced the strong purgative effects of Jamalghota accidentally, the name of Jamalghota is enough to show the effects. Before it will start showing the effects on me as I have written its name in this article more than required times, I am ending the article.

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Some additional information about traditional medicinal uses of Desi Gulab (*Rosa damascena*) in Chhattisgarh, India.

Although the natives of Chhattisgarh living in urban areas prefer exotic varieties of Rose but among the natives of rural regions, the indigenous variety of Rose, commonly known as Desi Gulab, is still popular. The traditional healers use this variety only in preparation of medicine. I have written a lot about different traditional medicinal uses of Desi Gulab and also about the medicinal knowledge about insects feeding on it. During my recent informal visits to different parts of Chhattisgarh, I got opportunities to get more information on this herb.

The traditional healers of Narharpur region use the Desi Gulab flowers in unique way to change the sex of urban child from male to female and vice-versa. Really? That is what the healers claim. They are famous in the region for their unique treatment. In our state, every one wants male child. But it is not possible. The natives see possibilities in simple but secret treatment by the traditional healers. In order to understand the method of treatment, I passed several hours with the healers. To prepare the combination, they entered in their homes many times and applied the combination into the nostrils. Impressed by my sincerity and eagerness, many healers disclosed the ingredient of combination. As ingredients the petals of Desi Gulab and Cow ghee are used in 1:2 ratio. Both are mixed and rubbed upto many hours till its colour changes into black. After the menstrual period, the combination is applied into the nostrils. For female child, the combination is applied into the right nostril and vice-versa. The healers informed that this is traditional knowledge and they are practicing it without any modification. The medical parishioners of modern system of medicine refuse this treatment at first sight but the popularity of the traditional healers among the natives forces me to attract the attention of world community in this direction. In reference literatures related to different systems of medicine in India, this unique use is not reported.

The traditional healers of Kondagaon region are fond of wound healing properties of dry petals of Desi Gulab. Any type of wound, fresh or old, can be treated effectively in very less time through the dry petals, the healers claimed. The senior healers of this region informed that in early days, the fighters returning from war zones were dependent on this herb for treatment. The traditional healers of other regions of Chhattisgarh are also aware of its use but they prefer it less as compared to the other herbs. From road, it is beyond to imagine, that the healers of Kondagaon region are still using dry petals with faith.

The traditional healers of Southern Chhattisgarh specialized in treatment of liver related troubles use the freshly extracted juice of Desi Gulab petals as remedy in most of the cases. Two mm

juice is given at a time to the patients, once in a day. It is considered as promising liver tonic. This use is not popular in other parts of the state. The juice of other varieties is not preferred.

During my return journey from Southern Chhattisgarh when my car stopped at Kanker region near to the well used for drinking water, I saw the well full of Rose petals. It is common belief in this region that to root out any hurdle in daily life, throw Rose petals in well and come back without seeing it. When I asked the senior traditional healers of this region about this belief, in very low voice he said the truth. Rose petals are well known for its water purifying properties. Possibly, our ancestors have associated this belief with Rose petals in order to make the well water pure upto long time. This was good to see that this belief is still in existence. I am not sure about the hurdles in daily life, but this belief is keeping the well water free from impurities.

While writing this article I can feel the smell of Rose petals coming from my field diaries. Unfortunately, it is not reminding me about someone special I have kept it in order to repel away the insects that can damage these diaries.

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Some important traditional medicinal uses of Telia vish (*Aconitum ferox*) in Chhattisgarh, India.

Although the traditional healers and herb collectors of Chhattisgarh claim that many species of *Aconitum* are present in wild but the reference literatures on flora do not support the natural occurrence. According to the literatures, it is a herb found in Himalayan regions. Many senior traditional healers are also in support of reference literatures but they add that the healers having expertise in use of *Aconitum* have planted the tuberous roots in many places and as a result it is growing in wild in relatively cooler places particularly in Northern Chhattisgarh. Although *Aconitum* species are not native to Chhattisgarh but the traditional healers are aware of its many medicinal properties and uses. I have noted during the surveys that out of many *Aconitum* species, Telia Vish (*Aconitum ferox*) is used most commonly. The traditional healers use it with full precaution as they are aware that wrong doses can take the lives of patients.

In references literatures related to different systems of medicine in India it is mentioned that the tuberous roots must be used after purification . The standard method of purification includes the dipping of tuberous roots in cow urine upto many days. And after this period, the soaked tubers are boiled in cow urine. After drying, the tubers are considered ready for use. Through this process, its toxicity reduces to the great extent. The traditional healers of Chhattisgarh region also aware of importance of purification method, but in place of cow urine they prefer the use of herbal extracts. As a traditional secret they do not want to share this knowledge. Many healers informed that about sixteen herbs that are used to prepare the herbal extract. Most of the herbs are common weeds of wasteland. The roots of these herbs are collected and boiled to prepare a decoction. This decoction is used to purify the Aconitum tubers. Through the on-going ethnobotanical surveys I am trying my best to gather more information on this important aspect.

As medicine, the freshly collected tubers are preferred but in case of non-availability, the healers also use the dry tubers. Very old tubers are not preferred. The traditional healers dependent on the herb vendors of neighbouring states for the supply of tubers have developed traditional method to judge its purity. The traditional healers of Chhattisgarh use the tubers both internally as well as externally as medicine. Its external application in form of paste is considered as a promising pain killer but the paste is washed immediately after relief as its long time use can be injurious. The traditional healers of Chhattisgarh Plains informed that they use the tubers internally in advanced cases of Enuresis when all other herbs fail. In advanced stages of respiratory troubles, the traditional healers of Sarguja region use the Aconitum based herbal formulations. They are not in favour of its use as single remedy. The traditional healers of Gariaband and Nagri-Sihawa regions specialized in treatment of fever are also aware of its use but as other promising alternatives are available, it is used very rarely. I got opportunity to meet a traditional healer of Nagri Sihawa region who has used Aconitum tubers thrice in his whole life. According to him at last stage, many times it give miraculous effects particularly in case of Malarial fever.

Few months back I presented some tubers, collected from wild to the Homoeopaths of Raipur city with request to evaluate its medicinal potential as Homoeopathic drug. As you know, in Homoeopathy Aconite holds a reputed position as most frequently used drug. At present, the Homoeopaths of Raipur city are dependent on German companies for the supply of this drug. The evaluation of local species will be of great help for the regional companies to prepare the drug in low cost and with tested efficacy.

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Some additional information about traditional medicinal uses of Chobchini (*Smilax lanceifolia*) in Chhattisgarh, India.

Chobchini is named Chobchini because it is introduced from China (in Hindi Chini) into the India. A close species of *Smilax*, i.e. *Smilax zeylanica* locally known as Ramdataun is present in Chhattisgarh. Chobchini has not been reported so far from the state, although the healers of Chhattisgarh particularly from Southern Chhattisgarh many times claim that it is present as very rare herb. The traditional healers are aware of its medicinal properties and uses. Most of the healers are dependent on herb vendors coming from the Northern Himalayan region for the purchase of Chobchini roots. The root and root bark both are used as folk medicine. Botanically, Chobchini is a climbing herb with large tuberous rhizomes; stem and branches are unarmed, polished; Leaves lanceolate, 3-nerved, polished; umbels simple, axillary, solitary and stalked. Division of the perianth linear, oblong.

The traditional healers of different parts of Chhattisgarh use Chobchini for different purposes. The traditional healers of Chhattisgarh plains, use the root bark both externally as well as internally in treatment of swellings in extremities. In form of aqueous paste it is applied externally on affected parts. Internally, it is added in popular herbal combinations used in treatment of this trouble. According to the traditional healers both internal as well as external uses cure the trouble effectively in very less time. In reference literatures, the use of Chobchini root bark in combination with Anantmool (*Tylophora* sp.) is mentioned. The traditional healers of Chhattisgarh are aware of this use but they prefer its use in combination with other herbs like Kukronda (*Blumea lacera*), Bhengra (*Eclipta alba*) et. The traditional healers of Southern Chhattisgarh consider the Chobchini very promising in treatment of many common diseases. The patients having poor sexual desire, Mirgi (Epilepsy), Rheumatism, Scrofula etc. are advised by the healers to take dried root bark daily in combination with cow milk daily, upto long time in

order to get rid from all these troubles. In general it is used as supplement with main treatment. In reference literatures related to different systems of medicine in India, its similar use in combination with medicinal herbs has been reported, but the healers prefer the use of Chobchini root barks alone. The traditional healers of Pendra region consider the root bark useful in treatment of venereal diseases but as other promising alternatives are available, it is used less commonly. The senior traditional healers of Gandai-Salewara prefer the use of insect infested roots of Chobchini. The infested roots can be identified simply with the small holes present on root surface. According to them, the infestation makes the roots medicinally more potential. I personally feel that there is a strong need for scientific investigation as the reference literatures claim that the insect infested roots are unfit for use as medicine.

As Chobchini is not a native to Chhattisgarh, most of the healers prefer the use of its local alternatives. The healers of present generation claimed that in early days the healers were using Chobchini more commonly. Through the on-going Ethnobotanical surveys I am trying my best to gather more information on different aspects of this herb.

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Some additional information about traditional medicinal uses of Bramhi (*Bacopa monnieri*) in Chhattisgarh, India.

Bramhi, the promising brain tonic and memory enhancer. We identify and recognize this herb from these properties only. In markets many Bramhi based products are available. From small children to old natives, all are using this herb and Bramhi based herbal formulations with out any guidance and consultation with herb experts. During the recent visits to Bramhi rich regions of

Chhattisgarh when the traditional healers informed that it is not a herb suitable for everyone, I shocked. They explained that the patients having respiratory troubles and other associated complains, when take Bramhi in any form, it causes great harm instead of benefit. The patients having cool nature (Tasir) are also not advised by them to take Bramhi. Unfortunately, the Bramhi based formulations available in form of commercial products in market do not write even a line, as a caution. This irresponsible act is damaging a reputation of herbal medicine to the great extent. Bramhi is becoming popular among the parents of school going children. The problem of cough and cold is also increasing among these children. Although no systematic study has been done for confirmation but the traditional healers aware of bad practice of self medication blame it for increasing new troubles among the users of herbal medicine.

The traditional healers of Nagri-Sihawa region are having rich traditional medicinal knowledge about the herbs useful in treatment of fevers. I have written a lot on this aspect in my previous articles. During recent interaction, the healers informed about new information. In treatment of sunstroke, common in hot summer days, we are facing these days, the healers suggest the patients to extract the whole herb juice of Bramhi and take it internally. In most of the cases this juice results in complete cure. This is the reason that now the healers are suggesting the natives to plant this valuable herb in home gardens by describing the details regarding its use. They believe that if the patients get sufficient relief from the juice, there is no need for them to come to the healers. Only in case of complications, the services of the traditional healers must be taken. Through the popular articles written in local languages I am trying my best to popularize the use of Bramhi, with full precaution, among the common natives.

The traditional healers of Gandai-Salewara region suggest the patients having worm problem to take its juice. The juice is given internally till complete flushing of intestinal worms. Many healers use dry powder also in combination with other herbs in treatment of intestinal worms. The use was new for me. The healers confirmed that they use it less commonly as many other promising alternatives like Baibirang (*Embelia ribes*) are available.

The traditional healers of Pendra region informed that Bramhi must not be used in form of Kadha (Decoction). It is not harmful but during the process of boiling, it loses many valuable medicinal properties. The traditional healers of other regions of Chhattisgarh have confirmed this information.

The rice growers of Chhattisgarh Plains particularly of Durg region informed that the concentrate extract of Bramhi can be used as promising rodenticide. As Bramhi is not a common herb in this part of Chhattisgarh the farmers have limitation regarding its use. Many herb growers are also using Bramhi extract successfully as insect repellent in selected medicinal crops as Bramhi extract is harmful to many crops also.

The above mentioned information is very important from documentation point of view. I want to mention it again before ending this article, that any herb must be taken after knowing all details about it. As you know 'Little knowledge is always dangerous'.

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Some additional information about traditional medicinal uses of Ghikuar (Aloe vera) in Chhattisgarh, India.

Want to manage the problem of Safed Daag (Leucoderma) and keep the body free from toxins? If yes, the traditional healers of Bagbahera region are having the unique traditional medicinal use of Ghikuar (Aloe vera). Collect the leaf pulp from Aloe plant and stand on it bare foot. Crush it with the help of foot till you feel bitter taste in mouth. In general, the bitter taste occurs in 15-20 minutes but at later, only 5-7 minutes are required. It seems unbelievable that how the crushing of pulp through foot develops bitter taste in mouth but when I tried it, I felt the bitter taste. According to the traditional healers during the journey from foot to mouth, the natural essence of Aloe eliminates the toxic material from body and purifies the blood. I am not sure upto what extent this explanation is scientifically true but in case of Leucoderma particularly at initial stages, it acts in promising way. No other remedies are given either internally or externally during this treatment. The normal natives are also advised to perform this crushing method particularly during transitional period in order to remain trouble free. When I deliver lecture on Aloe, I never miss to demonstrate this quick effect of Aloe to the participants. In reference literatures related to different systems of medicine in India, I have yet not found any detail

regarding this use. I am fortunate that through my documentation work this information is coming among the world community for the first time.

To cool down the violent patients having mental troubles, the traditional healers of Southern Chhattisgarh use the Aloe pulp in combination with Bhang (*Cannabis sativa*) seeds. By mixing both herb parts an aqueous paste is prepared. This paste is applied on forehead both as preventive and curative. Its use brings good sleep and makes the mind cool. Many senior healers prefer the use of Aloe roots in place of pulp in order to get more promising results. In previous research articles, I have written a lot on various aspects of Aloe but the information about the use of its roots is a new information for me. In general, the roots are used very rarely by the other healers.

During the recent Ethnobotanical surveys in Dhamtari region, I saw many Aloe herbs in one home garden. I stopped my vehicle, entered the garden and without hesitation interviewed the senior natives living in the home. They use Aloe very commonly as home remedy to treat common problems. In case of simple cough and cold, they collect the leaf pulp and after roasting consume it with Shahad (Honey). I have mentioned in previous articles that many natives prepare different tasty and medicinally rich herbal dishes by using leaf pulp. In treatment of stomach pain, the roasted pulp is taken internally with sugar. In case of spleen related troubles, the roasted pulp is taken in same way with Kala Namak (Black Salt). While documenting this knowledge I was wondering about the different roles of roasted pulp with different ingredients. The senior natives claimed that they manage almost all common troubles with this promising herb successfully. I thanked them and informed about the other details regarding traditional medicinal uses of Aloe in other parts of Chhattisgarh.

Although Aloe vera is a native to West Indies but the natives and traditional healers of different Aloe rich regions of the world have discovered and developed many important uses of this herb and this is a matter of proud for me that the traditional healers of Chhattisgarh are also one of the potential contributors.

Some additional information about traditional medicinal uses of Asgandh (*Withania somnifera*) in Chhattisgarh, India.

Asgandh, the Indian Ginseng, is popularly known for its use as general body tonic specially as sex tonic. It is added in popular herbal combinations as main ingredient for this purpose. The roots are used most commonly, although its all parts possess valuable medicinal properties and uses. I have written a lot on various aspects of Asgandh in my previous articles. The traditional healers of Chhattisgarh consider Asgandh as a herb that can be used for different purposes. They are not considering it mere a body or sex tonic. The persons declaring it as sex tonic are having very superficial knowledge - they inform. Last month, I got opportunity to visit the Asgandh rich regions of Chhattisgarh and to interact with the traditional healers again. Our discussion existed upto late night and resulted in some new information.

Have you observed the Asgandh herb in wild sincerely? The healers asked. I was not ready for this straight question. The healers informed that the potential Asgandh herb grows in nature with specific herbs having unique wound healing properties and among them, Asgandh looks like king, the king of all herbs. I remembered my quadrat study at Bilaspur region and without any delay searched my diaries, after coming back. In most of the spots from where my co-workers put the quadrates randomly, I found common association of *Tridax procumbens*, *Cynodon dactylon*, *Achyranthes aspera*, and *Blumea lacera*. All these herbs possess styptic and wound healing properties. The healers were true. I returned I returned back to them with my field books. The illiterate healers showed no interest in field books and without seeing it, they named all four herbs. They explained that the mother nature has put all these herbs in association. They claimed that all four herbs play an important role in enriching the properties of Asgandh in nature. What Asgandh gives in return ? The healers have answer for it. Asgandh plant possess a typical smell that repels away all the insects fond of these four herbs. Hard to believe ? Convinced with the healers and my field surveys, my suggestion to the researchers is to come out from research labs and try to understand the nature's experiments and arrangements. The original research. Also, encourage the weed experts to visit with you so that they can avoid the uprooting of all these four herbs, considered as problematic weed by them , in Asgand fields where its commercial cultivation is in progress. The healers have gained this knowledge from their ancestors and the Asgandh herb surrounded by these four herb are preferred only for preparation of medicine to heal the wounds. Yes, also the cancerous wounds. Most of us when study the traditional formulation we start it from the product and ignore the important step of under standing the standard procedure of herb collection. The traditional healers use the root

powder of potential Asgandh herb in many ways mostly externally, in treatment of wounds. Its use in form of special oil is very popular among the healers.

When the herb collectors of Asgandh rich region start their visits in dense forests, they use the roots of Asgandh in many ways. The roots are dipped in a bucket of water overnight and next morning, the water with leachate is used for bath. A piece of root tied with red string is kept in pocket by them throughout the visit. After completion of visit, the root pieces with string are buried under shade of Neem trees. Any scientific explanation for this use ? I tried but failed to draw any conclusion. Why these uses are necessary ? The herb collectors say it is a tradition : Why the roots are dipped in water? Is the bath with leachate, protects from poisonous insects that are common in forest ? May be, many of them replied. Why the red string is used why not the strings of other colours? Because red is a symbol of courage. Then why the roots are buried under the shade of Neem trees? Is this burring result in any stimulatory Allelopathic effects on Neem? How can I expect the answers of these complex scientific question from them. Now the questions and traditions are among you also. Try to explain. I am in need of scientific explanation. For myself? No, for the future generation, so that they can honour their traditional scientific knowledge.

In Chhattisgarh, Asgandh is a traditional Bright Eye herb. The healers suggest the patients having poor eye sight to mix Asgandh roots, Mulethi and Aonla (*Emblica officinalis*) in equal proportion and take teaspoonful of powder daily morning. The healers introduced many patients taking this powder. Hard to imagine but the effects were promising.

So, next time if you identify any herb with its specific property, try to get more details about it, because according to the healers, the mother nature has not made any specific herb for specific trouble. Every herb is having many uses. The only thing required is the positive attitude (and deep research also).

Some additional information about traditional medicinal uses of Fudhar (*Calotropis* species) in Chhattisgarh, India.

In previous articles on Safed Daag (*Leucoderma*) and Bemchi (*Psoralea corylifolia*), I have written a lot about both external as well as internal uses of Bemchi seeds in combination with cow urine and other medicinal herbs. Bemchi is a reputed remedy used in all systems of medicine in India in treatment of *Leucoderma*. The modern technology PUVA also uses this herb. Recently, I got an important information regarding the use of Bemchi seeds in combination of Fudhar (*Calotropis* sp.) latex. According to the traditional healers having expertise in treatment of *Leucoderma*, Bemchi gives most promising results in combination with Fudhar Doodh i.e. latex. The combination is applied externally in form of aqueous paste. The healers of Chhattisgarh claims that at initial stages many times the use of this combination alone cures the trouble. At later stages, it is used alone with main treatment. I have noted during the Ethnobotanical surveys that many healers use Bemchi seeds and Fudhar latex separately. Why do not you use the combination? These healers showed ignorance towards the combination. When they tried it, they found it really effective. Bemchi grows as winter weed whereas Fudhar grows as all season herb in Chhattisgarh. Hence, it is not difficult to make the combination. Both herbs are well known to common natives. The use of freshly collected latex is recommended only. Although, in general *Calotropis gigantea* and *C. procera* both are considered to possess similar properties but the traditional healers prefer *Calotropis procera* for the preparation of combination. Both species are common in Chhattisgarh. In reference literatures related to different systems of medicine in India, the use of Bemchi, Hartal, Kesar and Fudhar, in form of combination is mentioned but the traditional healers of Chhattisgarh are not much aware of this combination. Many such information, I have collected during my informal visits to different parts of Chhattisgarh.

When we started discussion on Dataun (Herbal Tooth Brushes) of Chhattisgarh, the healers repeated that although it is preferred less by the natives but the Dataun prepared from Fudhar leaves is a boon for the patients having gum and teeth related troubles. The thin roots of Fudhar are selected and with the help of stone or teeth, fine brush is prepared at one end. This brush is used to clean the teeth. During the process of chewing, the juice extracted from roots, kills the germs. The users are instructed to avoid the swallowing of the juice. The healers informed that the roots collected once can be used upto long time even upto a month. Every time after the use the brush end is cut with the help of sharp knife and root is used in same manner from cut point. In local herb shops, this Dataun is easily available. I have experienced its miraculous effects and these effects motivated me to popularize the use of this Dataun among the natives of young

generation, as among them this trouble is becoming a common trouble. It is mentioned in ancient reference literatures that the Dataun of Fudhar is the best and give second preference to Parsa (*Butea monosperma*) and third to Neem. In general, the Neem Dataun is considered the best. While preparing a large datasheet on *Calotropis* species around the world for the research organization of U.K., I have noted that Fudhar is present in many parts of the world. I am sure that the information I have given in my research articles at Botanical.com will be of great use for the natives living in Fudhar (*Calotropis*) rich regions around the world.

During recent visits, I observed some practical uses of Fudhar plant parts. The use of Fudhar flowers in treatment of digestive system related troubles, is not only simple but also very effective. The dry flowers are used as medicine. For round the year use the flowers are collected and dried in shade. After drying, the powder is prepared. Few pinches of powder is enough to give desirable effects.

The above mentioned additional information is of great value and importance particularly for the researchers recommending its mass destruction through agrochemicals by declaring it as problematic weed.

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Some new information about traditional medicinal uses of Bans (*Bambusa bambos*) in Chhattisgarh, India.

When the natural Forest of Bans comes under wild fire, the traditional healers of affected parts strictly instruct the natives to avoid inhaling the fumes coming. According to them, the fumes are the source of many diseases and in small exposure, the normal person can get health troubles for whole life. The forest fire in Bans rich regions is common in Chhattisgarh and the natives particularly the senior natives try to protect themselves from fumes by taking shelter in places, opposite to wind direction. Since generations the traditional healers are aware of these harmful

effects. This is the reason that during visit to forests in winter days, the healers never allowed me to burn the Bans sticks to get warmth. The natives of Bans rich region informed that the fumes are responsible for troubles related to respiratory system but the traditional healers informed that it is having deep seated effects and it reduces the defense power of the body. When fire starts, the first person who enters in forest is from forest department. Unfortunately, they are not much aware of these harms. Many of them are aware but they have no way to ignore the duty. So, what the wild animals do in times of fire? Many senior traditional healers of Pendra region replied that many animal species are aware of these harms and they try their best to stand in opposite direction but in the time of unexpected disturbances, it is very difficult to select the place of safety. The unique observation of the healers about specific behaviour of certain wild animal species, is a matter of scientific investigation. The traditional healers avoid to enter the burning Bans forest but never miss the chance to collect the ash after the end of fire. You can find the healers, herb collectors, vendors and senior natives, aware of valuable medicinal properties and uses of ash, when the fire comes to an end. The traditional healer having expertise in treatment of cancerous wounds are well aware of its wound healing properties. In normal cases, the ash is applied in combination with Koila (Coal powder). Both are mixed in equal proportion and the powder is applied on wounds. The ash is also added in popular herbal combinations as main ingredient, used to heal the cancerous wounds. The traditional healers consider it as promising tooth powder also. It is considered as a boon for the patients having dental and gum related troubles. Many herbs vendors mix the ash in Sarson (Mustard seed) oil and sell the special oil as promising hair tonic. It is claimed that it can treat the problem of Alopecia. The herb collectors informed that many wild animals particularly wild boars are fond of this ash and roll over the heap of cool ash. Possibly, it helps them in making their skin free from infection. After writing thoroughly on different aspect of Bans in previous articles, I was not expecting the new information about this multi useful herb. My recent visit to Amarkantak region gave me opportunity to gather information on this aspect. The forest in mid way was under fire, waiting for me to understand its various untouched and undocumented aspects.

The modern life style gives us a lot of mental tension to us. Many of us hardly get sound sleep, even once in a month. The sleeping pills solve the problem to some extent but there is no comparison of natural sleep and pills induced sleep. For modern life, according to the traditional healers of Chhattisgarh Plains, many parts of Bans are a boon. In order to get rid from fear of enemies, since generations the healers are recommending the use of Earrings prepared from Bans roots. The healers suggest the modern native to take the advantage from this traditional use. I have tried the earrings successfully for sound sleep but without knowing its science, I am not ready to accept whether psychology is working or really earrings are showing miraculous effects. You will find these powerful earrings at any village market. In order to get good health in stressful life, include few soft leaves of Bans in your diet. According to the healers, it helps in normal functioning of digestive system. It is a promising appetizer. Its long term use results in sound sleep. Good digestion and sound sleep! What else the modern natives need. The use of

Bans leaves has many other advantages. It is having the capacity to stop both internal as well as external bleeding. So, the female natives are advised to add it in their menu without any delay. The leaf juice flushes out the intestinal worms. The healers give the example of many wild as well as domestic animals fond of Bans leaves and about its effects on their health. I have mentioned in previous articles about the benefits of leaves of Lawn grass (*Cynodon dactylon*). The healers suggested that at morning Bans leaves and at evening *Cynodon* leaves can be taken as sweet and juicy breakfast but they are not in favour of its use at a time.

It is a positive attitude of our healers that they have started taking the advantage from all natural hazards as well as odd conditions.

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Some additional information about traditional medicinal uses of Dasmool or Shatavar (*Asparagus racemosus*) in Chhattisgarh, India.

Before starting the systematic treatment of any trouble particularly troubles related to blood impurity, the traditional healers give a special solution to the patients to use it in place of water for bath. After this bath, the patients are given the very first dose. What is the science behind it ? How any herbal solution helps in increasing the effectiveness of any medicine ? These questions are yet to be answered by the researchers but the traditional healers try to explain that after this bath, the body becomes ready to give more response towards medicine. As traditional secret, most of the healers want to keep the contents of solution secret but there are many healers ready to share this secret knowledge. They informed that as ingredients Shatavar roots, Bariyari (*Sida acuta*), Gondla (*Cyperus rotundus*), Haldi (*Curcuma longa*), Sarson (Mustard), Keu (*Costus speciosus*) and Sarphonk (*Tephrosia purpurea*) are used. All herbs and herb parts are dried in shade and converted into powder. This powder is mixed in one bucket of water. Three fistful powder is taken for one bucket having the capacity of ten litres. The solution is mixed thoroughly and kept as such over night. Next morning after filtration, the leachate is

used for washing the body. The healers are not in favour of using it in form of decoction. Although many herbs are added in this solution but according to the traditional healers Shatavar plays a central role and every ingredient, except Shatavar, is having substitute, that can be added in the solution.

In general, Shatavar is known around the world for its aphrodisiac properties. Also, it is used commonly in treatment of gynaecological troubles. In reference literatures related to different systems of medicine in India, Shatavar holds a reputed position as a remedy of these troubles. But like other herbs, Shatavar has many useful properties that can be used for several other troubles. The dense forests are rich in natural population of this herb. I have written a lot on different aspects of Shatavar in my previous articles. Now I have focused my studies and surveys on less known uses of Shatavar.

When I stayed with the traditional healers of Chhattisgarh at their homes, few weeks back, the healers suggested me to use a special sticky solution to wash the hairs. I tried it but it was so sticky to use. They suggested me to use it regularly upto two months in order to get rid from all troubles related to hair. Its use not only prevents premature hair falling but also promotes the growth of new hairs. The promising solution was an aqueous extract of Shatawar roots. They simply crush the roots with the help of stone and water and prepare a solution. This solution is smeared on hairs half an hour before bath and washed with plain water during bath. Although the time duration recommended by the healers are still far but I have found it as promising alternative to chemical based shampoo available in local markets. I personally feel that by slight modification i.e. by adding aromatic herbs and other ingredients, we can establish this traditional solution, a marketable product. I am writing to the state authorities to include this promising solution in proposed herb based small cottage industries so that the state can earn from this traditional knowledge and can help the traditional healers with this earning.

The traditional healers of Gandai - Salewara region informed that they suggest the patients having poor sexual health to use Shatavar roots both internally as well as externally. You can find the details regarding its internal uses in previous articles. For external uses, the roots collected on specific day and time after performing worship ceremony are tied around the waist with the help of red string. According to the healers, this application gives extra support to the patients and improves their performance. After getting normal health the patients are advised to remove the roots. The normal person is not advised to use it in this way.

The above mentioned uses are popular among the healers. My objective is to provide scientific authentication to it.

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Some additional information on Traditional medicinal uses of Parsa (*Butea monosperma*) in Chhattisgarh, India : The new experiences during "Parsa Yatra"

In rainy season when harmful insects and micro-organisms enter in houses to make the natives sick, the traditional healers use the dry flowers of Parsa to clean the houses. The dry flowers are mixed with cow ghee and burnt. The fumes are spread all over the houses particularly in places where these organisms stay in day time. The procedure is repeated upto one week. Many times upto a month. It is also adopted as preventive measure. As the use of cow ghee daily is beyond the reach of many natives, the dry flowers are used alone. According to the traditional healers, it is an age old practice and they are adopting it without any modification. Is this effective against mosquitoes ? To some extent, the healers replied. Kanker region is rich in natural population of Parsa. Every year the forests of this region fulfill the national demand of Parsa plant parts to the great extent. When I informed the traditional healers of Bagbahera region about this use, they thanked me and assured that they will try it. They use the flowers to prepare a decoction. The freshly collected flowers (dried flowers are also used) are boiled in water and when half quantity (of initial quantity) of water remains, the boiling is stopped and the patients having skin related troubles are advised to take bath using this decoction. Many such information, I have collected through my recent Parsa Yatra, a survey focused on Parsa (*Butea monosperma*) tree. Although I have written a lot on various aspects of Parsa in my previous articles but through this "Parsa Yatra", I got some new and interesting information. The purpose of this Yatra (Journey) is to disseminate the traditional knowledge from one part to another. The "Parsa Yatra" was done in February - March months of year 2004 when the flame of the forests i.e. Parsa was in flowering stage and in every part these beautiful trees welcomed this Yatra with flowers. So, when the traditional healers of Northern Chhattisgarh were informed about the traditional uses of Parsa flowers that are in existence in Kanker and Bagbahera, the healers

added that the fumes of burning Parsa flowers (dry) are beneficial for the patients having nervous system disorder. They suggest the patients having Mirgi (Epilepsy) to inhale the fumes at least once in a day along with main treatment. The patients are instructed to collect the flowers for year round use in advance. The healers do not take the burden of collection and processing of flowers. So, after this "Parsa Yatra", the healers of these three regions got the information on two additional traditional uses. In next Yatra, I will try to get the feed back. During this Yatra, I use Parsa leaves as Pattal (Platters) in place of Plastic plates. I have mentioned in previous articles that the traditional healers consider the food served in these Pattals best for general health. The short term use of platters made up of Parsa leaves helps in developing natural resistance inside the body. The food served hot on these platters results in some beneficial chemical reaction. I personally feel that there is a need for detailed scientific research on this aspect. The healers are not needing any report. They are using it since generations and it is its efficacy that it is still popular among them.

The traditional healers of Gandai - Salewara showed me the epiphyte collected from Parsa trees. According to them it is very difficult to get it on specific days and times. The healers consider it as a sign of good luck. The dried plants are kept in the rooms from where the healers practice the traditional knowledge. Any other advantage ? The healers gave smile and replied that it will take time to understand its importance. I am ready to wait. In place of dinner, the healers of this region served a special sweet dish prepared by using Parsa Gond (Gum). To prepare this dish, the solid pieces of Parsa gum is fried with the help of cow ghee and in combination with milk and sugar, a thick solution is prepared. Although I have taken it in small amount but it gave the strength of full dinner. The tongue was in search of more varieties but the body was satisfied with this energetic dish. The healers informed that this dish will give me a sound sleep and increase my performance. But when I told them that I am still a bachelor and nothing to do with this type of performance, they laughed and accepted that wrong remedy has been given to me. You will be surprised to know that the consumption of this dish gave so much strength to me that I walked tens of kilometers next day in forest road without much exhaustion. I passed two nights under the shade of Parsa trees and at nights collected many natural insects with expectation that possibly they are also visiting these trees to take advantage of its medicinal properties.

The short trip "Parsa Yatra" resulted in good information and interaction. In future Yatra, I will try to visit different regions with more friends and Co-workers. We will be happy, if you will also travel with us.

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Sitaphal (*Annona squamosa*) : A new friendly herb for herb growers.

In general, Sitaphal is well known for its delicious fruits. Although this herb is a native to South America and West Indies but today it is under cultivation as fruit crop in many regions of India. From cultivated fields it has escaped to the wild and this is the reason, its natural population can be seen in wastelands and forests. Besides the delicious taste, the fruits are rich in medicinal properties. The traditional healers use all parts of Sitaphal both internally as well as externally in treatment of many common diseases. The results of recent research and experiments have established this herb as friendly herb among the herb growers particularly the organic growers of India. It is one of the extensively studied herbs for its insecticidal properties. In Chhattisgarh, it is in use as natural botanical since generations. The female natives are keeping dried leaves of Sitaphal with stored grains in order to protect it from storage grain pest. The new experiments by the innovative herb growers of Chhattisgarh have resulted in great success and today the growers are using its different plant parts in different ways according to the ease.

The herb growers engaged in commercial cultivation of Kasturi Bhendi (*Abelmoschus moschatus*) are planting Sitaphal plants in field periphery in order to repel away of harmful insects. Kasturi Bhendi crop is very susceptible to pest attack and as its seeds possess aromatic compound, the use of synthetic chemicals, affects the quality to great extent. The Kasturi Bhendi growers are dependent on organic inputs for pest management. The plantation of Sitaphal is helping them a lot. When the farmers tried alternate rows of Sitaphal and Kalmegh (*Andrographis paniculata*), they found much better results. Kalmegh is annual herb under cultivation as medicinal crop. The combination of Sitaphal and Genda (*Tagetes erecta*) resulted in less effective results than previous combination. The herb growers informed that the insects are very clever and this is the reason the long term use of any specific combination results in failure. The herb growers adopt different combinations every year. In commercial cultivation of Kevatch (*Mucuna pruriens*), the infestation of Aphid (*Aphis* sp.) is common. To manage this problem the herb growers are using special solution having the aqueous extracts of different herbs. In this solution, Sitaphal leaf extract plays an important role. The Safed Musli (*Chlorophytum borivilianum*) growers of Southern Chhattisgarh informed that the concentrated spray of Sitaphal leaves injures the newly emerged leaves of Musli. Hence, the diluted solution should be used. In order to avoid any injury the herb growers are adopting other alternatives. The herb growers of Chhattisgarh plains have started the addition of Sitaphal seed powder like

Neem and Castor cakes during field preparation preferably with Farm Yard Manure. The addition of Sitaphal seed powder helps in managing the problem of soil borne pathogens and insects. I have found it very effective in management of termite. I have mentioned in previous articles that due to regular cropping of Safed Musli crop in same land, many herbal farms are facing the problem of rotting diseases. In initial experiments conducted at farmer's fields of Chhattisgarh we have found that the addition of Sitaphal seed powder with FYM helps in managing this trouble to the great extent. We have observed that Sitaphal plant parts possess strong allelochemicals and overdose of its seed powder with FYM can cause the damage to the medicinal crop. Keeping this observation in view, we are standardizing the doses and expecting that in coming year, we will be able to recommend it to the farmers around the world. At present our experiments are focused on Indian medicinal and aromatic crops.

Although it seems very beneficial to plant high yielding improved varieties of Sitaphal around the crop fields for dual purpose i.e. to get protection from insects and to get delicious fruits, but the herb growers have observed that the high yielding varieties are poor in insecticidal properties. In most of the cases they act as attractant of insects rather than repellent. I personally feel that there is a need of scientific confirmation.

The increasing demand of Sitaphal plant parts for preparation of natural pesticides is generating employment opportunities for the natives of Sitaphal rich regions of Chhattisgarh. There are many traders in Chhattisgarh and neighbouring State Orissa, engaged in supply of Sitaphal seeds.

Encouraged by the success of herb growers, now many paddy growers tired of using chemical inputs in commercial cultivation are taking keening interest in Sitaphal plant parts. Now the time has come that the researchers must start systematic research as per the need of farmers and disseminate the bulk of information present in research publications among the farmers in simple language.

Possibilities and feasibilities of establishing Charota (Cassia tora) processing industry in Charota rich regions of India. : Some initial observations.

Charota or Chakvad grows as wasteland weed in many parts of India. The dense forests are also rich in its natural population. Although the reference literatures describe it as weed (i.e. unwanted plant) but in fact it is not a weed. It does not cause any harm to agricultural crops. Its presence in wasteland makes it nutritionally rich as it is a nitrogen fixing leguminous plant. The farmers of many regions use this so called weed for green manuring specially in paddy fields. In Chhattisgarh, newly emerged leaves of Charota are popular pot herb. The traditional healers consider this pot herb as a boon for the patients having gout problem. The traditional healers use all parts of Charota both internally as well as externally in treatment of many common diseases. It is an integral part of many herbal formulations. You will be surprised to know that many Indian states like Madhya Pradesh, Chhattisgarh, Orissa etc. earn handsome revenue from Charota. It is collected in bulk from forests and supplied to drug as well as other industries as raw material. From collectors to end user, the Charota business is a source of livelihood for thousands of Indian families. In Chhattisgarh, through studies I have identified over 32 persons through which Charota reaches to end user from first collector. Upto twenty fifth person, Charota reaches in raw form without grading and full of impurities. To minimize the number of middle men in this long chain, many new entrepreneurs are taking keen interest in establishment of processing units so that the final products can be prepared and the target of value addition can be achieved at regional levels. Fortunately, I am associated with many of these new entrepreneurs.

For advanced processing units, the entrepreneurs are dependent on Charota seeds only. They are interested in its industrial uses not in medicinal uses. The seeds have many reported uses. Its roasted seeds are used as substitute to Coffee. It yields tannins and yellow, blue and red dyes. It is used for tanning and dyeing. It yields a gum (upto 7.65%) that is said to be promising substitute to Guar gum. It is good agent for suspending and binding. Although the reference literatures are full of information regarding its industrial uses but the information on establishment of processing unit is not available. The new entrepreneurs want to establish a multipurpose unit through which many products can be prepared without much modification. Many entrepreneurs of Gujarat state have established gum extraction unit. They are not interested in other products. Initially, they invested huge sum for machinery and quality control laboratories in order to produce products of International standards but later when they started adopting the traditional method of gum extraction that is still popular in many villages and with

the traditional healers, they realized that through this method the gum extraction can be done at very low investment and without making any compromise with the quality.

The success stories of gum extraction units adopting traditional method of gum extraction motivated me to list out the existing traditional methods in different parts of the country. The operation is on and till today I have collected over twenty such methods. After completion of operation, I am eager to submit it to the council of industrial research or any interested R & D organizations to develop low input standardize technology for the entrepreneurs.

As a researcher, I see a great scope in this field and expecting some promising out comes.

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The search for AI (Morinda species) in dense forests of Chhattisgarh, India.

Few months back, a herb trader cum processor from Bangalore contracted me with request to inform about the potential natural source of Morinda citrifolia trees specially fruits as there is a huge demand of it at international markets i.e. many tons per week. Its juice is in market as a health drink with many advantages. To help this guy, I visited dense forests of Chhattisgarh and consulted reference literatures and in this way, collected many unique information. I am giving the details in present article.

The true AI is Morinda citrifolia. It is also known as Indian Mulberry. In different parts of India, it is known by different names. The reference literatures describe its natural occurrence at sub-Himalayan regions, Darjeeling, Konkan and the Andmans. The names of Madhya Pradesh and Chhattisgarh are not present in the list. The herb trader was interested in true AI and giving

second preference to other species. As you know, I have surveyed the Chhattisgarh extensively through Ethnobotanical and Entomological surveys, I have yet not seen true AI in wild. I contacted the herb collectors of Orissa and Andhra Pradesh border with request to search Achu or Pindre and Togaru maddi. All AI species are well known for its red dye. The root, bark and also the woody portion yield a red dye. This root dye is well known as I dye commercially. Formerly it was employed for colouring cotton, woolen and silk. The use of AI dye has been abandoned since the advent of synthetic dye stuff. Among the traditional healers of India, *Morinda citrifolia*, a true AI, is a popular folk medicine. Its roots, leaves and fruits are used as medicine. The root possess cathartic properties. The leaf decoction is used in treatment of infantile diarrhea. The leaf juice is also used externally in treatment of gout. The unripe berries are said to be useful in treatment of gum related troubles. The search for true AI was on and we were getting little success. Our herb collectors got information about few trees present in isolated patches but few trees can not serve our objectives. After long wait we got good news saying that Panikka community living in Chhattisgarh-Orissa border use true AI to dye Gammachha and Saris, the daily wears. Without any delay we visited to this location and found good population of true AI. I noted that the natives of this region are well aware of valuable medicinal properties and use of true AI. When the trader put his requirement with assurance that this is golden opportunity which will generate employment opportunities, the natives refused his proposal by saying that they can supply the fruits of *Morinda tinctoria*, the tree relatively very common than true AI. The natives were not agree to sell the trees that have filled colours in their plain and hard lives. The traditional healers of this community claimed that for juice purpose *M. tinctoria* is more beneficial as well as *M. citrifolia*. For dye purposes, definitely, the true AI is superior.

The reference literatures on flora describe the *Morinda tinctoria* as a small tree with elliptic-ovate, acuminate, acute, leaves which is tomentose beneath; flowers white, pentamerous in terminal axillary or leaf opposed pedunculate globose heads; Calyx truncate; Corolla glabrous within, lobes 5, oblong; Fruits globose, pyrene stony and seeds oblong. Among the natives of Chhattisgarh it is known as AI or Bartundi. Its green fruits are consumed as vegetable with taste. The traditional healers are aware of its health benefits also. The dense forests of Chhattisgarh are rich in natural population of *M. tinctoria*. For this species, one has not to depend on specific community. During the search in southern Chhattisgarh, I got information on another *Morinda* species i.e. *Morinda umbellata*. It can be differentiated from *M. tinctoria* through its tetramerous flowers.

The herb trader forwarded this information to potential international buyer with samples. The supply period of *M. tinctoria* will be from March-August whereas for *M. umbellata* from June to September. Last week I got good news that the buyer has accepted the samples and ordered

big amount. As the Morinda species will enter in commercial trade and definitely more traders will come forward to collect the fruits from wild. The collection of fruits will not pose any threat on existing population of Morinda species but to foresee its possible exploitation, I am trying to convince the state authorities to give the permission of collection of Morinda fruits through rotational collection. The healers are agree with this rotational method of non-destructive harvesting. They still remember early days when its roots were under collection as a source of dye. This collection has decreased the natural population of this tree to the great extent.

I am keeping close view on this new trade and will inform the world community about it time to time.

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The Establishment of Herbal Information Centres (HIC) : A need of the hour.

India, bestowed with rich bio-diversity, is passing through Herbal Revolution (Vanoshadhi Kranti) after Green Revolution (Harit Kranti). Every one is talking and thinking about herbs and traditional knowledge about it. The present generation is taking keen interest not only in herbal cultivation but also in herbal cure. If I am not wrong, this trend can be seen in almost all parts of the world. The present generation is paying attention in conservation of natural habitat of herbs, never done before by the human beings. They are aware that their survival depends on the survival of herbs in natural forests. Every one is curious to know more and more on all aspects of herbs, but they are not getting all information from one platform. Since long time, I am planning to establish Herbal Information Centre (HIC) to provide the forum for every one interested and associated with herbs. The HICs can be at different levels from global to regional. Initially I have focused my work on the establishment of regional Herbal Information Centres specially for the herb growers of India.

In India, the herb growers are having everything from resources and enthusiasm but they are lacking true information. In this population rich country, the filtration rate of information is very-very slow. The herb growers living in remote areas are far from latest information and when the information reaches to them and they start cultivation of important herbs, in this long process, the unsteady market trend changes in different direction. Few years back, understanding the high demand of Kevatch (*Mucuna pruriens*) when our experts started awareness programme for its commercial cultivation, the herb growers welcomed this new crop and cultivated it extensively. Within two-three years, as a result of change in market trend, the rates of Kevatch seeds gone down. Today several hundreds tons of Kevatch seeds are dumped at store houses of the herb growers. Aware of enormous potential of wonder crop Safed Musli (*Chlorophytum borivilianum*), thousands of herb growers want to get full details but through different sources they are getting very little information and the confusing information is creating problems for them. Internet is a good source of information. It also gives information about information sources. In India, where the villages are far from electricity facilities, it is beyond the imagination to expect from them that they will ever take the advantage of internet facilities. Most of the villagers are illiterate, hence, the articles written in local languages are not of much use. Working with Chhattisgarh based non-governmental organization Agrocrat's Society for Rural Development, I got lesson that one whole life is short to make a single village as model village. In Chhattisgarh we have over 16, 000 villages. You can understand the Herculean task ahead. For true 'Herbal Revolution', the information must reach to all farmers and growers. I am confident that the Herbal Information Centres (HIC) can serve this task effectively and promisingly. During student life, I was running the small Agricultural Information Centre at my village Khudmudi. In this centre, we were using all extension tools from literatures to audio-video aids. Twice in a week, we were organizing farmers-experts meet and the researchers of Indira Gandhi Agricultural University, Raipur were extending free support to this information centre. The meeting days were Wednesday, the market day and Sunday. With the help of University, we conducted front line demonstration as well as many technology trials for the farmers. The success of this small effort assured me that one day I will be able to establish many such information centres around the world. Many sincere researchers and experts are trying their best to run these centres under their capacities in different parts of the world. I would like to quote the great work of Prof. Jules Janick, University of Purdue and founder of new crop website. This website is full of information about the herbs around the world. You will be surprised to know that the Indian herb growers using internet, are dependent on this website for all information. The access to this website is free. The sincere efforts of Prof. Janick motivated me to contribute my research articles based on Indian herbs to this website. In his country, Prof. Janick is serving the herb lovers. His online Herbal Information Centre is a model for extension workers around the world. Imagine the situation, when thousands of HIC based on this model HIC are in action in all parts of the world. I wish to make this dream true in this life.

My emphasis is not only in establishing the Herbal information Center but also to run it properly. In India, we have many Agricultural Extension Centers for the farmers, run by universities. From

outside (also on official records) it looks very perfect but in reality the staff members leave the centres as the farmers arrive with problems. The researchers must not forget that they are working for the common person.

A good sign is that when I informed the enthusiastic researchers around the world about my 'special wish', many researchers are coming forward and with them, I am preparing different model Herbal Information Centers for different agro-climatic conditions. Through this article I would like to request the young researchers to extend their support to complete this dream project.

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Alsophila species: The rare tree fern species of Chhattisgarh, India.

The reference literatures claim that *Alsophila* species are present in the earth since time immemorial and at once, it was the favorite foods of Dinosaurs. The natives living in Southern Chhattisgarh are not aware of this information. For them *Alsophila* species are the gift of god and since generations, they are living with these divine herbs. According to the reference literatures on flora, three species of *Alsophila* are present in Chhattisgarh viz. *Alsophila balakrishnanii*, *A. gigantea* and *A. spinulosa*. All are extremely rare, at least for the botanists engaged in roadside surveys but for the natives and traditional healers, it has become rare in past two decades. Earlier the forests were rich in natural population of these Tree ferns. During the Ethnobotanical survey, I got opportunity to observe virgin, untouched wild population of *Alsophila* in many parts. The traditional healers have kept it as such with strong belief that their survival is dependent on the survival of these ferns. In general, the *Alsophila* species are considered as a sign of good luck. The natives living in dense forests are using these species as sacred ferns very commonly. It is an integral parts of all religious ceremonies. The patients having nervous system related troubles are suggested by the traditional healers to pass whole day near to these species, but do not touch it. I have seen during the recent surveys that the healers prepare small huts near the wild population of *Alsophila* species and arrange the windows in position so that it opens towards these species. The patients having old fevers are advised to stay in these huts till complete cure. The senior traditional healers of Akashnagar area informed me that these species protect them from evil spirits. I have mentioned in previous articles that the Bengali community of Sarguja region plants *Nishindi* (*Vitex negundo*) in their

home gardens for the same purpose. The traditional healers of Southern Chhattisgarh claimed that many wild animals particularly the wild dogs kept distance with these species. I am trying my best to collect more details on this aspect. The information on traditional use of *Alsophila* species as a sign of good luck when reached to urban natives, this important information has become a sign of bad luck for the *Alsophila* species. Due to over exploitation, at present these species have become very rare. The traditional healers still have the protected areas where they are having rich population of *Alsophila* species but they are not ready to disclose the information at any cost. After all it is a question of their survival. Living with these species, since time immemorial the traditional healers have discovered and developed many unique medicinal properties of these species but like its wild population, they are not ready to inform its folk uses. They are truly suspicious that the traditional uses will attract the greedy collectors and traders in the forest. I have mentioned in previous articles that many herb vendors sell two types of *Jatamansi*, *Nardostachys jatamansi*, that is collected from Himalayas and also from many parts of the state and another local *Jatamansi* i.e. *Alsophila balakrishnani*. Although the healers of Chhattisgarh Plains claim that local *Jatamansi* can be used successfully as substitute to true *Jatamansi* but the traditional healers of Southern Chhattisgarh are not agree with this use. According to them both *Jatamansi* possess different properties, although both gives excellent results in treatment of nervous system disorders. The traditional healers of Bhopalpatnam region informed that *Alsophila* species are having anti-ageing properties whereas the healers of Bastar region claimed that in popular herbal combinations used traditionally in treatment of different types of cancer, *Alsophila* is added as main ingredient. This important information encouraged me to document this valuable knowledge without any delay and to aware the researchers to focus their studies on this important aspect.

Alsophila species are popular as food also among the trials. When I showed the photographs of Dinosaurs to the traditional healers of *Alsophila* rich regions, explaining about its food habits, the healers said that the users of these species are not less than the modern Dinosaurs in any aspect.

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Development of research methodology for evaluation of medicinal herbs against snake poison : A need of the day.

Last week, a visitor from Australia asked the first question at Raipur airport that he has visited India to see herbs, snakes and elephants and requested me to show all these in Chhattisgarh. In Chhattisgarh, we have herbs, snakes and elephants in different parts. The snakes and elephants (wild elephants) take several lives every year whereas the herbs save the lives from snake bite and injuries due to wild elephants. With the visitor, I visited to different traditional healers having expertise in treatment of snake bite. Fortunately, in Chhattisgarh we have hundreds of such experts in every region using native herbs to manage the trouble. I have written a lot about these healers and the herbs they are using, in my research articles at Botanical.com.

Few days back when the researchers of National Innovation Foundation, Ahmedabad, India informed me about a bare fact that no leading Indian institute is ready to conduct the clinical trials to evaluate the anti-venom properties of herbs and herbal formulations, I shocked. This Foundation is engaged in documentation of traditional knowledge at grass root level. They are encouraging the healers to share their secret formulations with the assurance of full protection against its misuse. They are also rewarding the best entries with cash prizes. I am associated with this Foundation as a member of Research Advisory Committee. Every year this Foundation gets thousands of entries around the India. Most of these entries possess formulations to manage snake bite and venom. Before further step, it is very necessary to conduct the clinical trials. Unfortunately, no institute is ready to take this responsibility. According to them, there is no research methodology for the testing. As a result thousands of entries are dumped and every day the list is increasing and the healers are passing away. In Chhattisgarh most of the healers having expertise in this field are over 80 years of age. We have very little time to take the advantage of their in depth knowledge and unique formulations.

As a researcher, I studied many books by Dr. J.F. Caius. He has written in his books about many Indian herbs claimed to possess properties that can be used to nullify the harmful effects of snake poison. He has also mentioned about the clinical trials conducted by him and co-workers that have proved most of the herbs useless. Unfortunately, he has not mentioned the methods of the use of particular herb. Many of the herbs like Gumma (*Leucas aspera*) have been declared useless in this book, but during Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have observed the practical uses of *Leucas aspera* many times. *Leucas* is in use in Chhattisgarh since generations as folk medicine, both internally as well as externally. Unfortunately, Dr. Caius is not with us now. Possibly, after Dr. Caius, not much work has been done on this aspect.

The purpose behind writing this article is to encourage the young researchers to come forward and start systematic research as there is a big gap in this field. To attract the attention of researchers around the world, with request to extend their support to Indian researchers, is also the objective.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 325. Peka Ke Sag.

Peka is a local name of *Bambusa tulda*. It is a specific species of Bamboo. In India, it grows naturally in Assam and Bengal states. In these states, it is also known as Chau. The matured culms of Peka are utilized for manufacturing paper, baskets and fans. I have mentioned in previous articles that the natives of Chhattisgarh use the leaves, and young culms of local Bamboo species as curry and pickles. The natives of Bengali community in Chhattisgarh are aware of use of Peka young culms as Sag (Curry). During the Ethnobotanical surveys conducted on Northern hilly regions of Chhattisgarh, I have got this information for first time. According to the natives of this region, this Sag is good for general health. The traditional healers have confirmed this information. The natives prepare the curry by using 31 different methods. I am giving the detail of standard method.

Material Required: Peka young culms, Tel (Oil), Hardi (Turmeric), Namak (Salt), Lason (Garlic), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Peka young culms are boiled in water and softened culms are added in pan with all ingredients. The combination is roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Peka, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 324. Pardesi Patta Ke Sag.

In general, the leaves of any exotic herb are known as Pardesi Patta locally. In this name many herbs are recognized and used in Chhattisgarh. The ornamental succulent herb Begonia is also known by this name. In Chhattisgarh it is introduced as ornamental herb many decades back. Living with this herb, the natives have started the use of leaves as Sag (Curry). It is consumed due to sour taste of leaves. The traditional healers are not aware of its health benefits, but they consider it good for general health. The patients having the problem of peptic ulcers are not advised the healers of consume it.

Material Required: Pardesi Patta leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Pardesi Patta leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal use of Begonia, please read my previous articles.

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Traditional medicinal knowledge about *Brithys crini* (F.) [Lepidoptera : Noctuidae] feeding on Kalihari (*Gloriosa superba*) in Chhattisgarh, India.

Kalihari (*Gloriosa superba*) is a well known medicinal herb in Chhattisgarh. The dense forests are rich in natural population of this herb. It is also under cultivation as medicinal crop particularly in Chhattisgarh Plains and in Southern parts. Since generations it is in use as folk medicine. I have mentioned in previous articles that the insect species infesting Kalihari are used as medicine in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers having expertise in treatment of different types of cancer use, the full fed caterpillars of *Brithys crini* as medicine both internally as well as externally. For internal use, the full fed caterpillars are used in form of powder. The full fed caterpillars are collected from potential herbs. Kalihari of cultivated origin is not preferred by the healers. Kalihari growing in stressed conditions are not considered suitable for caterpillar collection. The herbs heavily damaged by *Brithys* caterpillars are preferred as compared to the herbs having poor damage. According to the traditional healers, there are tens of more precautions. They have gained this knowledge from their ancestors and following it without any modification. The full fed caterpillars are dried in shade and converted into powder. This powder is added in secret herbal combinations used in treatment of different types of cancer. The healers explained that in different types of cancer, different doses of caterpillar powder are given but without this powder most of the herbal combinations are incomplete. Many healers purify the caterpillars before converting it into powder. The purpose of purification is to eliminate its toxic contents. For purification, the caterpillars are dipped in secret herbal solutions. I am trying my best to gather the information regarding these secret herbal solutions. Externally, the caterpillar powder is used in combination

with Neem oil. The combination is applied in cancerous wounds as treatment. According to the traditional healers both internal as well as external uses helps in providing great relief to the patients. The healers are not aware of its other medicinal uses.

As cancer is a world wide problem and thousands of researchers around world are engaged in search of promising remedies, I am confident that this vital information will be of great help for the researchers. The above mentioned traditional medicinal uses have yet not been reported in reference literatures.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Agropistus limbatus* Matsch. (Coleoptera : Chrysomelidae) feeding on Ban Mallika (*Jasminum angustifolium*) in Chhattisgarh, India.

Ban Mallika (*Jasminum angustifolium*) is a small shrub, grown as an ornamental for its fragrant white flowers. It is well known herb in Chhattisgarh. Like other Jasmine species, Ban Mallika is also used as folk medicine. The infestation of *Agropistus* leaf miner is common in Chhattisgarh. The traditional healers specialised in treatment of nervous system disorders use the full fed insect as medicine. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have collected many valuable information on this aspect. The traditional healers use full fed insects both internally as well as externally. Internally, the insects are used in form of powder whereas externally, the healers prepare special oil from the insect. For internal use, the insects are added in powder form in popular herbal combinations used in treatment of Mirgi (Epilepsy). To prepare the special oil, the full fed insects are boiled in base oil and when all watery contents evaporate the boiling is stopped and oil is kept for future use. This oil is massaged on forehead and soles of patients as treatment. According to the traditional healers both internal as well as external uses cure the trouble effectively in very less time. The

traditional healers are not aware of its other traditional medicinal uses. I have noted during the surveys that very few healers are aware of these uses. This observation motivated me to document this important information without any delay. Through the on-going Ethno-entomological surveys in progress different parts of Chhattisgarh, I am trying my best to gather more information. As Ban Mallika and insect, both are common in many parts of Chhattisgarh, I am expecting new information. When I informed the healers of other regions about these traditional uses, they assured me to try the insect and conduct the trials. This is good sign.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 323. Sundar Nar Ke Sag.

Sundar Nar is a local name of *Boussingaultia baselloides*. It is an ornamental climber. It is well known herb in Chhattisgarh particularly in Chhattisgarh Plains. It is planted in public and home gardens. From the gardens it has escaped and today it is present as wild herb in many parts of the state. The traditional healers are less aware of its medicinal properties and uses. Sundar (in Hindi Beautiful) Nar Ke Sag (Curry) is prepared by using its leaves. In reference literatures it is mentioned that the tubers can also be used for this purpose but the natives of Chhattisgarh use its leaves only. The natives and traditional healers are not aware of its health benefits but they consider it useful for stomach.

Material Required: Sundar Nar leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Masale (Spices), Tel (Oil) etc.

Method of Preparation: The pan having oil is kept on fire. Sundar Nar leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Sundar Nar, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 322. Van Makra Ke Bhat.

Van Makra is a local name of *Brachiaria ramosa*. It is a common grassy weed in Chhattisgarh. It is popular fodder in the state. The traditional healers are aware of its less but promising medicinal uses. It is mentioned in reference literatures, that its grain is eaten during the times of scarcity in many parts of India but the traditional healers recommend its use in form of Bhat (Cooked grains) in normal days. The grains are added with the rice grains and cooked in traditional ways. Many times, Van Makra grains are cooked alone and used in same manner. The traditional healers of Chhattisgarh consider it useful in treatment of kidney related troubles. It is recommended as supplement treatment to main treatment of this trouble. The senior healers informed that in early days when medicinal rice varieties were under cultivation in many parts of Chhattisgarh, the Van Makra grains were playing an important role to make the dishes medicinally rich. The natives are not much aware of its health benefits. As Van Makra Ke Bhat is prepared through conventional method of rice cooking. I am not giving the details in present article.

For the botany, traditional and reported medicinal uses of Van Makra, please read my previous articles.

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Traditional medicinal knowledge about *Celphyus* maggots (Diptera : Chloropidae) feeding on Adrak (*Zingiber officinale*) in Chhattisgarh, India.

According to the reference literatures, Adrak (Ginger) is a native to S.E. Asia and now it is under cultivation for rhizomes in many parts of India. Its rhizomes are used as spice and condiment. In reference literatures related to different systems of medicine in India, Adrak holds a reputed position as medicinal herb. The rhizomes are used in medicine as carminative and digestive stimulant. The essential oil obtained from rhizomes, is used for flavouring purposes. Adrak is well known medicinal herb in Chhattisgarh. The dense forests of Chhattisgarh are rich in natural population of Adrak. Many wild and rare species of Adrak have been reported in these forests. Adrak is also under cultivation in fairly large areas. The natives are using Adrak as home remedy, since generations, besides its use as condiment and spice. The traditional healers have in depth traditional medicinal knowledge about this herb. The infestation of *Celyphus* sp. is reported in both cultivated fields and at cultivated fields. In wild population it attacks rarely. The traditional healers of Southern Chhattisgarh use the *Celyphus* maggots feeding on Adrak rhizomes as medicine. Through the Ethno-entomological surveys conducted in this region, in recent past, I have collected many valuable information on this aspect. I have mentioned in previous articles that this traditional healers use the rhizomes powder externally in treatment of headache but due to its strong effect, many patients feel uneasy to apply the paste upto long time. The traditional healers of Southern Chhattisgarh use the full fed maggots of *Celyphus* for this purpose. The maggots are converted into aqueous paste and applied in same manner. According to the healers, the patients prefer the maggot paste than the paste prepared from rhizome powder. To hide its identify and typical smell many times healers add aromatic herbs or Mitti (Soil). The maggot powder kept from a long time is not used for this purpose. Only the freshly collected maggots are capable of treating the pain-the healers added. As the availability of maggots round the year is a problem, the healers use it during availability period. They have other herbs and insects for next seasons. The traditional healers of Bhopalpatnam region boil

the freshly collected maggots in Sarson (Mustard seed) oil. When all watery contents evaporate, the boiling is stopped and after filter the oil is kept for future use. This special oil is considered as a boon for the patients suffering from joint pains. The oil is massaged on painful parts. This oil is very popular among the healers. Its popularity clearly indicates its efficacy. The traditional healers of other parts of Chhattisgarh are not aware of these uses.

In reference literatures, the traditional medicinal uses of *Celyphus* maggots feeding on Adrak have not been reported. Through the present research article, this information is coming among the world community for the first time.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Serica calcuttae* Br. (Coleoptera : Melolonthinae) feeding on Desi Gulab (*Rosa damascena*) in Chhattisgarh, India.

Out of the rose species, Desi Gulab (*Rosa damascena*) is preferred by the traditional healers of Chhattisgarh as medicine. In reference literatures, related to different systems of medicine in India, Desi Gulab holds a reputed position as medicinal herbs. Its all parts mainly leaves and flowers are used as medicine. I have mentioned in previous articles that the natives and traditional healers of Chhattisgarh use many insect species feeding on Desi Gulab as folk medicine. During the Ethno-entomological surveys conducted in Nagri-Sihawa and Narharpur regions of Chhattisgarh in recent past, I have observed that the traditional healers of these regions use *Serica calcuttae* as medicine. The traditional healers of these regions are well known for their expertise in treatment of different types of fever. The full fed grubs of this insect are added in herbal formulations given internally in treatment of fever. According to the traditional healers, many formulations having promising effects in case of Malarial fever are incomplete without the grub powder. The healers further informed that once prepared in bulk,

the grub powder can be stored upto long time but as the infestation is common every year, they prefer to use the fresh powder. In commercial farming of Rose, this beetle is considered as problematic pest. I personally feel that there is a strong need to conduct a systematic research on this medicinal insect. According to the traditional healers they have gained this knowledge from their ancestors and without modification they are adding the grub powder in formulations. The grub powder is not used alone.

The use of *Serica calcuttae* feeding on Desi Gulab as medicinal insect has not been reported in reference literatures. As both Desi Gulab and the beetle are common in many parts of the world, I am expecting that this traditional medicinal uses will be of great use for the researchers engaged in utilization of insects as medicine.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 321. Bade Chilla Ke Sag.

Bade Chilla is a local name of *Casearia esculenta*. It is a small tree that grows in wild. The traditional healers are aware of its medicinal properties and uses. The natives living in remote areas use the leaves of Bade Chilla to prepare the Sag. The natives of Pendra region use it very commonly for this purpose. The natives consume it for its specific taste like other pot herbs but the traditional healers recommend this Sag as medicine to the patients having fever as medicine. Very few traditional healers are aware of this important use.

Material Required: Bade Chilla leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. Bade Chilla leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Bade Chilla, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 320. Sabbajaya Ke Sag.

Sabbajaya is a Hindi name of *Canna orientalis*. It is a perennial herb commonly cultivated as an ornamental for its flowers and foliage. Its hard black seeds are made into necklaces and rosaries. In Chhattisgarh, it was introduced as garden plant but latter it escaped from garden and today it grows as wild plant in many parts of Chhattisgarh. The natives and traditional healers are aware of its natural occurrence. They are aware of its less but promising medicinal uses. Sabbajaya Ke Sag (Curry) is prepared by using its tuberous rhizomes. This preparation is considered as good body tonic by the natives. The patients recovering from exhaustive diseases are suggested by the traditional healers to never miss the chance of its consumption. It is also popular among the natives for its specific taste.

Material Required: Sabbajaya rhizomes, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The rhizomes are boiled in water and cut into small pieces. The pan having oil is kept on fire. The small pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). I have collected information on over thirty five methods so far, by which the curries from the rhizomes are prepared. You will find the details in coming articles.

For the botany, traditional and reported medicinal uses of *Canna orientalis*, please read my previous articles.

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Traditional medicinal knowledge about *Chionaspis dilatata* G. (Hemiptera : Aphididae) feeding on Hansraj (*Adiantum capillus-veneris*) in Chhattisgarh, India.

Hansraj is a common fern that grows naturally in Chhattisgarh. The natives and traditional healers are aware of its traditional medicinal properties and uses. In wild population of Hansraj, many species of insect attack. *Chionaspis* is one of these species. during the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Gandai-Salewara region use the nymphs and adults of *Chionaspis* as medicine. The full fed nymphs and adults are collected from healthy fern and after drying, converted into powder. The traditional healers add this powder as important ingredient in all herbal formulations used in treatment of gynaecological troubles. The healthy female natives are also suggested by the healers to take this powder with Shahad (Honey) once in year, upto a month, in order to get protection from gynaecological troubles round the year. Through the surveys I have identified thirty five traditional healers using this insect as medicine. Most of the healers were over 80 years of age and like the healers of the state, they were also

having the same complaint that their young generation is not taking interest in this valuable knowledge. Many senior healers informed that this insect powder can be used successfully in treatment of kidney related troubles but as other promising alternatives are available it is used less commonly. From documentation point of view it is an important information. The traditional healers are not aware of its other traditional medicinal uses. In general, they do not disclose the use of insect powder to the patients as traditional secret. The healers aware of importance of on-going documentation work, disclosed these uses. Like other healers, these healers also do not charge any fees for treatment.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. It seems that this research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 319. Hurhur beeja ke Sag.

Hurhur is a local name of *Cleome viscosa*. It is a common glandular pubescent herb. It grows as wasteland weed in Chhattisgarh. The natives and traditional healers have rich traditional medicinal knowledge about this herb. This is the reason they have kept it in the category of medicinal weeds. Hurhur beeja means its seeds. In general, the Sag (Curry) using pure seeds are not prepared. Its seeds are added in different curries in order to enrich its taste. Many natives prepare Sag using the seeds alone. The seeds are used as Sag for its specific taste.

The traditional healers, aware of its health benefits, consider this Sag useful for the patients having intestinal worms. According to the healers, its regular use flushes out the worms effectively in very less time. As this Sag is prepared by traditional method mentioned earlier in this series, I am not giving the details.

For the botany, traditional and reported medicinal uses of Hurhur please read my previous articles.

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Traditional medicinal knowledge about *Crociosema plebeiana* Zell. (Lepidoptera : Eucosmidae) feeding on Gulkhaira (*Althea officinalis*) in Chhattisgarh, India.

According to the reference literatures Gulkhaira (*Althea officinalis*) is an ornamental herb, native to E. Europe. It is under cultivation in many parts of India. It is considered as one of the important medicinal herbs also. Its root is demulcent and emollient and an infusion of flowers recommended in bronchial catarrh and bronchitis. It is considered to be very useful herbal cough remedy. In Chhattisgarh, this herb is planted as ornamental herb in home and public gardens. The traditional healers are aware of its medicinal uses and properties. The traditional healers also use the insect species feeding on different plants parts of Gulkhaira as medicine. *Crociosema plebeiana* is one of these insect species. Through the Ethno-entomological surveys conducted among the traditional healers in recent past, I have collected many valuable information on traditional medicinal uses of this insect. The full fed caterpillars are used both internally as well as externally in treatment. The traditional healers of Chhattisgarh are aware of use of Gulkhaira in treatment of respiratory troubles. Many healers add the dry caterpillar powder in Gulkhaira based formulations in order to increase its effectiveness. The full fed caterpillars are collected and after shade drying, converted into powder. They boil the freshly collected caterpillars in Sarson (Mustard seed) oil, when all watery contents evaporate, the boiling is stopped and oil is filtered. This special oil is considered very useful in treatment of Bavasir (Piles). The patients are advised to apply it on affected part. In general, the traditional healers prepare it in bulk at their homes and give it to the patients in limited quantity without disclosing its contents. This oil is very popular among the traditional healers. Its popularity

clearly indicates its efficacy. In order to stop the bleeding from piles, as initial measures many healers suggest the patients to just apply the freshly collected caterpillars on it. The traditional healers are not aware of its other medicinal uses.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. As Gulkhaira and caterpillar both are common in many parts of the world, I am expecting that this information is of great importance for the researchers around the world.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh ,India. 329.ManKand Ke Sag

Mankand is a local name of *Alocasia indica*. It is under cultivation in Chhattisgarh. Its Sag (Curry) is very popular among the natives. For the traditional healers it is a valuable medicinal herb. They use its all plant parts as medicine both internally as well as externally in treatment of many common diseases. Mankand Ke Sag is prepared by using its rhizome. According to the traditional healers this preparation is a boon for the patients having the problem of constipation. Many healers recommend its use as supplement treatment with the main treatment of urinary system related troubles. As curry this herb is more popular among the natives of the poor community.

Material Required: Mankand rhizomes, Hardi(Turmeric),Lason (Garlic),Tel(Oil),Namak(Salt), Masale(Spices) etc.

Method of preparation: Mankand rhizomes are boiled in water .The pan having the oil is kept on fire. Mankand rhizomes and other ingredients are added in pan and roasted well. The curry is served hot with Bhat(Cooked rice).

For the botany, traditional and reported medicinal uses of Mankand ,please read my previous articles.

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Herbal dishes of Chhattisgarh ,India. 328.Gandana Ke Sag

Gandana is a local name of *Allium ascalonicum*. It is also known as Pardeshi Piaz in Chhattisgarh.. It is under cultivation in many parts of India including Chhattisgarh. From cultivated fields it has escaped to the wild and this is the reason now it is presented in many parts of the state as wasteland plant. It is cultivated for its leaves and bulbs. The traditional healers are aware of its presence but it is used as folk medicine less frequently. Gandana Ke

Sag is prepared by using its leaves and bulbs. It is popular among the natives for its specific pungent taste. In many properties the traditional healers consider it more promising in medicinal properties than Piaz (*Allium cepa*). In general it is used as substitute to Piaz.

Material Required: Gandan leaves and bulbs, Hardi(Turmeric),Lason (Garlic),Tel(Oil),Namak(Salt), Masale(Spices) etc.

Method of preparation: The pan having the oil is kept on fire. Gandan leaves and bulbs and other ingredients are added in pan and roasted well. The curry is served hot with Bhat(Cooked rice).The natives of different regions prepare this Sag by using different methods. I have collected the information on over 15 different methods. You will find the details in coming articles.

For the botany, traditional and reported medicinal uses of Gandana ,please read my previous articles .

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh,India.167.Lichora Ke Shurbut.

Lichora is a local name of *Adansonia digitata*. According to the reference literatures Lichora is a soft wooded tree native to Tropical Africa and probably brought in India by the Arab traders. It is scattered all over the country. Its all parts are used as medicine. The natives and traditional healers of Chhattisgarh have rich traditional medicinal knowledge about this herb. Although its distribution is limited in specific areas but the healers of all parts of the state are using it as folk medicine. Lichora Ke Shurbut is prepared by using its fruit pulp. This Shurbut is more popular among the healers than the natives. The healers recommend it to the patients having problem due to excessive heat inside the body. It is given along with the main treatment. In general, the

healers prepare it in bulk at their homes and give it to the patients coming for treatment. The healers living in areas where Lichora is not present, the herb vendors play an important role in supplying the fruits. To prepare the Shurbut, the juice is extracted from fruits. Separately sugar is boiled in water to prepare the Chashni (Sugar syrup). The juice and syrup are added and the Shurbut is filled in bottles for future use.

For the botany, traditional and reported medicinal uses of Lichora, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 168. Pangla Ke Shurbut.

Pangla is a local name of *Aesculus indica*. It is one of the less known tree species in Chhattisgarh. Its distribution is limited to hilly regions. Very few traditional healers are aware of its presence in wild. Its leaves and twigs are used as fodder. The wood is used for mathematical scales and packing cases. During the Ethno-botanical surveys conducted in different parts of Chhattisgarh, I have found only ten healers aware of traditional medicinal uses of Pangla. Pangla Ke Shurbut is prepared by using its fruits. According to the traditional healers this Shurbut is a boon for the patients suffering from old fevers. It is given to the patients in order to reduce the high fever. Day by day, this preparation is becoming a thing of past. This observation motivated me to document the information regarding this preparation without any delay. To prepare the Shurbut, the fruits are boiled in water and decoction is prepared. In this decoction the sugar syrup is added and Shurbut is prepared. Diluted with water it is used internally as per the recommendations of the healers.

For the botany, traditional and reported medicinal uses of Pangla, please read my previous articles.

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Herbal dishes of Chhattisgarh,India.327.Pani Booti Ke Sag

Pani Booti is a local name of *Alisma plantago-aquatica*. It is a common marshy herb. In different parts of Chhattisgarh it is known by different names but Pani Booti is most common name. The natives and traditional healers are aware of its natural presence in the state. Pani Booti Ke Sag is prepared by using its tuberous rhizome. It is popular among the natives specially among the poor natives. It is consumed for its specific taste. The traditional healers are aware of its health benefits. This preparation is considered as good tonic. The patients recovering from exhaustive diseases are suggested by the healers to never miss the chance of its consumption. The healers are not aware of its other medicinal uses.

Material Required: Pani Booti leaves, Hardi(Turmeric),Lason (Garlic) ,Tel(Oil),Namak(Salt), Masale(Spices) etc.

Method of preparation: The pan having the oil is kept on fire. Pani Booti leaves and other ingredients are added in pan and roasted well. The curry is served hot with Bhat(Cooked rice).

For the botany, traditional and reported medicinal uses of Pani Booti ,please read my previous articles

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Herbal dishes of Chhattisgarh ,India. 326 .Gandina Ke Sag.

Gandina is a local name of *Allium ampeloprasum* var. *porrum*. It is a stout, tall herb and native to the Mediterranean region. Its English name is Leek. In Chhattisgarh it is introduced in recent past and this is the reason that the natives and traditional healers are not much aware of this herb. The traditional healers of Chhattisgarh Plains have found this herb as a herb with medicinal importance. Gandina Ke Sag is prepared by using its leaves. According to the healers it is beneficial for the patients having nervous system related troubles. The reference literatures are full of information regarding medicinal uses and properties of this herb but the traditional healers of Chhattisgarh are not aware of its other traditional medicinal uses.

Material Required: Gandina leaves, Hardi(Turmeric),Lason (Garlic) ,Tel(Oil),Namak(Salt), Masale(Spices) etc.

Method of preparation: The pan having the oil is kept on fire. Gandina leaves and other ingredients are added in pan and roasted well. The curry is served hot with Bhat(Cooked rice).

For the botany, traditional and reported medicinal uses of Gandina ,please read my previous articles.

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Some additional information on Ama(*Mangifera indica*) plant parts :Recent interaction with the traditional healers of Chhattisgarh Plains.

The season of Ama has started in Chhattisgarh. The natives are expecting good yield from the indigenous Ama species this year. Last month i.e. March ,2004 I got an opportunity to meet and interact with the traditional healers of Chhattisgarh Plains with the information I have collected from different corners of Chhattisgarh ,in order to take their expert opinion and comments. Through this interaction I got some additional information on different traditional medicinal uses of Ama plant parts. I am giving the details in present article.

I have mentioned in previous articles that the natives and traditional healers of Chhattisgarh use many home remedies in treatment of toothache. When these remedies fail the traditional healers of Chhattisgarh Plains use the bark of Ama, Doomar(*Ficus glomerata*) and Jamun(*Syzygium cumini*). The barks are collected and dried in shade .After drying ,all barks are crushed into powder and mixed in equal proportion. The combination is boiled in water and when one fourth (of initial quantity) of water remains the boiling is stopped and decoction is used in form of gargle. It is considered as one of the promising treatments. The patients are advised to gargle with this decoction many times a day. The healers informed that although all barks are important in the combination but Ama bark plays an important role. This combination can be used round the year but its used in summer season gives good results. The healers are unable to give the scientific explanations but their deep faith in this knowledge is enough to convince. Most of the healers prepare the combination in bulk for round the year use and give it to the patients without disclosing its ingredients. During the surveys I have seen this combination with the herb vendors of this region also. In treatment of earache the healers use the leaf juice of Ama. The juice of newly emerged leaves is preferred. The juice is extracted and the patients are advised to apply few drops of lukewarm juice in to the ears. This use is very popular among the healers. In order to increase the efficacy of juice many healers add the leaf juice of Kukronda(*Blumea lacera*) in it in equal proportion. Although it is very difficult to get the newly emerged leaves of *Blumea* and Ama at the same time but the healers never miss the opportunity of its use ,in case of availability.

As mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use the leaves of Ama in treatment of diabetes. During the recent interaction the traditional healers informed that the Ama Guthli (Stone) can be used in order to get rid from weakness common in diabetic patients. The stone is dried in shade and after crushing it in to powder ,it is kept for use round the year. The powder is given internally with Shahad (Honey). Many healers claimed that the use of both leaves and stone at a time results in synergetic effects. Although the leaves and stone powder can be kept for long time but as Ama plant parts are easily available the healers use freshly prepared powder. The plant parts collected from indigenous species are preferred to the plant parts of improved varieties. In treatment of gynaecological troubles ,the use of Baur (inflorescence) is also popular among the healers of Chhattisgarh Plains. But they have an additional information regarding the selection of potential Baur. In Ama many insects attack. The traditional healers of this region prefer the insect infested ,least damaged Baur for the preparation of medicine. I personally feel that there is a need of scientific research in this regard .The bark of Ama is used for diarrhoea as folk remedy .The bark is used internally mostly. The traditional healers of Chhattisgarh informed that the bark can be used externally also for the same purpose. For external use the bark is crushed and with the help of Dahi(Curd) an aqueous paste is prepared. This paste is applied around the umbilicus as treatment. It is considered as one of the simple as well as effective treatment.

When we started discussion on Tree Shade Therapy and I informed them about the comments of the healers of other parts of the state ,in reply the healers informed that the shade of Ama is beneficial for the patients suffering from liver related troubles. The patients should pass more time under the shade in order to get early relief from trouble. This was new information for me.

Most of the above mentioned traditional medicinal uses have yet not been reported in reference literatures .I thanked the healers for this valuable information.

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Herbal dishes of Chhattisgarh, India. 318. Ratala Ke Sag.

Ratala is a local name of *Coleus rotundifolius*. It is a herb or under shrub with aromatic leaves. It is native to tropical Africa. It is under cultivation in many parts of India. In Chhattisgarh, although it is newly introduced herb but the traditional healers are aware of its health benefits. In Chhattisgarh, many species of *Coleus* grows naturally. In general, the healers use it is treatment of Kidney related troubles as medicine. Ratala Ke Sag is considered beneficial for the patients having nervous system disorders. Also with main treatment, it is given as supplement treatment. Ratala Ke Sag is prepared by using its dark-brown, tuberous underground stem. Among the natives it is popular preparation. They prepare it by adopting different traditional methods.

Material Required: Ratala tuberous stems, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: Ratala tuberous stems are boiled in water and softened stems are cut into small pieces. The pan having oil is kept on fire. The small pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Ratala, please read my previous articles.

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Traditional medicinal knowledge about *Platypria hystrix* Fb. (Coleoptera : Chrysomelidae) feeding on Agasti (*Sesbania grandiflora*) in Chhattisgarh, India.

Agasti (*Sesbania grandiflora*) is a quick growing tree, native to tropical Asia. Its flowers, fruits and tender leaves are used as vegetable. The plant is used as support and shelter for pepper

and betel vine, as shade for coconut and as wind-break in banana plantations. Its tender shoots and leaves are fed to live stock and poultry. The bark yields fibre which is used for cords. The wood which is white and soft, is used for preparing toys. In Chhattisgarh, Agasti is a well known herb. The natives and traditional healers have rich traditional medicinal knowledge about this herb. The Chrysomelid beetle *Platypria hystrix* feed on its leaves. Although it is mentioned as problematic pest in reference literatures but for the traditional healers of Chhattisgarh, this insect is a source of medicine. Its grubs and beetles both are used as folk medicine both internally as well as externally. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have collected many valuable information on this aspect. Most of the healers prefer the use of full fed beetles, but in general they mix the beetles and grubs in equal proportion. Before preparing the dry powder from the grubs and beetles, the traditional healers purify the insects by dipping it in herbal solution. According to the traditional healers, Jatamansi (*Nardostachys jatamansi*) plays an important role in this herbal solution. The main purpose of purification is to eliminate the toxic contents of insects. As additional advantage, it gives new soothing smell to them as Jatamansi is an aromatic herb. The insect powder is prepared by drying it in shade. The traditional healers of Chhattisgarh Plains use the insect powder internally to flush out the intestinal worms. It is given in small amount with Shahad (Honey). Due to its sweet smell, the patients think that it is a herbal powder. The traditional healers of Narharpur region add the insect powder as main ingredient in popular herbal combinations used externally in treatment of skin diseases. It is considered very useful in treatment of Daad (Ring worm). The traditional healers of Ambikapur region prepare a special oil by using full fed beetles. The beetles are dipped in Sarson (Mustard seed) oil and the solution is kept under sunlight upto three months. After this duration, the solution is filtered and oil is kept for future use. This oil is used in treatment of rheumatic pain. Few drops of oil is massaged gently on affected portion as treatment. The traditional healers have deep faith in this traditional knowledge. The healers are not aware of its other traditional medicinal uses. As both Agasti and this beetle are common in almost all parts of Chhattisgarh, I am confident that through the on-going Ethno-entomological surveys, I will get new information.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. It seems that this research article is the first written document on these traditional medicinal uses.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 317. Kanjun Ke Sag.

Kanjun is a local name of *Commelina paludosa*. It grows as wasteland and crop weed in Chhattisgarh in rainy season. Like other species of *Commelina* viz. *C. benghalensis*, *C. forskalii*, *C. paludosa* is also used as Sag (Curry) in Chhattisgarh. This Sag is popular among the natives of poor community. From health benefits point of view, the traditional healers consider Kanjun inferior to other *Commelina* species. The traditional healers recommend it to the patients having the problem of constipation. According to them, its regular consumption helps in complete cure of this trouble. The traditional healers of Nagri- Sihawa region suggest the patients during fever to consume this Sag in order to lower down the temperature.

Material Required: Kanjun leaves and Shoots, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. Kanjun leaves and shoots with all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Commelina paludosa*, please read my previous articles.

Traditional medicinal knowledge about *Pycnarmon caberalis* Guen. (Lepidoptera : Pyralidae) feeding on Memri (*Ocimum canum*) in Chhattisgarh, India.

Memri (*Ocimum canum*) grows as wasteland and bund weed in Chhattisgarh. In reference literatures related to different systems of medicine in India, Memri holds a reputed position as medicinal herb. Its all parts are used as medicine. It is also used as pot herb in many parts of India. The natives and traditional healers of Chhattisgarh are aware of its natural presence in Chhattisgarh. They are having in depth traditional medicinal knowledge about Memri. I have mentioned in previous articles that in Chhattisgarh, the traditional healers use many insect species feeding on *Ocimum* species as medicine. The traditional healers of Southern Chhattisgarh use the caterpillars of *Pycnarmon caberalis* as medicine. Through the Ethno-entomological surveys conducted in recent past, I have collected many valuable information on this aspect. The full fed caterpillars are used both internally as well as externally. The full fed caterpillars are collected into powder. Once prepared in bulk, this powder can be stored upto long time- the healers informed. This powder is used externally in treatment of Safed Daag (Leucoderma). The healers use the powder in form of aqueous paste in combination with Cow urine. The paste is applied on white spots and after drying, it is washed. It is applied many times in a day. According to the healers, the application helps in spread of spots. In most of the cases, it is used as supplement treatment along with main treatment. The main treatment is based on herbal formulations and given internally. The popularity of this paste among the healers is enough to indicate its efficacy. For internal use, the full fed caterpillars are dried in shade instead of in sun light. The shade dried caterpillars are converted into powder. This powder can be stored upto three weeks only. The caterpillar powder possess specific smell. The loss of smell means the loss of medicinal property. The traditional healers give this powder in combination with Shahad (Honey) to the patients having the problem of Mirgi (Epilepsy). The powder is used judiciously and given in small amount. In complicated cases, the caterpillar powder is given in combination with medicinal herbs. I have observed during the survey that very few healers are practicing this knowledge. This observation motivated me to document the information regarding these important traditional use without any delay.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 316. Kankauwa Ke Sag.

Kankauwa is a local name of *Commelina forskolii*. I have mentioned in previous articles that the natives of Chhattisgarh consume Kaukaini (*Commelina benghalensis*), a common weed in rice fields, as pot herb. Like Kaukaini, Kankauwa is also a common weed in Chhattisgarh. Although it is common in almost all parts of Chhattisgarh but I have seen its dense population in Chhattisgarh Plains. The natives of Chhattisgarh Plains use this herb as Sag (Curry). It is consumed for its specific taste. The traditional healers consider this Sag beneficial for the patients having the problem of constipation. According to them, its regular use during availability period develops natural resistance inside the body, against common diseases round the year. Its availability is limited upto rainy season only.

Material Required: Kankauwa herb, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Kankauwa herb and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). The traditional healers instruct the patients to collect the herb from such crop fields, where agrochemicals are not used.

For the botany, traditional and reported medicinal uses of *Commelina forskohlii*, please read my previous articles.

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Traditional medicinal knowledge about *Haplothrips ramakrishnae* K. (Thysanoptera : Phloeothripidae) feeding on Guldaudi (*Chrysanthemum indicum*) in Chhattisgarh, India.

Guldaudi (*Chrysanthemum indicum*) is a native to China and Japan. It is cultivated as an ornamental in many parts of India. In Chhattisgarh, the natives plant it in home gardens. The traditional healers are not much aware of its medicinal properties and uses. Its all parts are used as folk medicine. Many insect species attack on Guldaudi. The infestation of *Haplothrips ramakrishnae* is common in Chhattisgarh Plains. It damages the flowers. The traditional healers and senior natives are aware of its medicinal uses. According to them, they are using this insect as medicine since generations. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have collected many valuable information on this insect. The senior natives use the full fed insect as veterinary medicine. In form of aqueous paste it is applied on wounds to destroy the worms. During rainy season in order to protect the cattle from infectious diseases, the cattle owners wash them, with the help of herbal decoction. In the decoction, full fed insects are added in dry powder form as an important ingredient. The senior natives of Durg region use the insect powder in treatment of Foot and Mouth disease of cattle. As the information regarding these traditional medicinal uses is spreading through popular articles in local language, now the cattle owners of other parts of Chhattisgarh have started its use. Its popularity among them clearly indicates its efficacy. The herb collectors and herb vendors of Gandai-Salewara region collect the insect and in powder form, sell it to many traditional healers of Chhattisgarh and other states where Guldaudi and *Haplothrips* both are not common. Through interactions with them I got valuable information. According to them, the traditional healers specialized in treatment of different types of cancer, purchase the insect powder in bulk and add it in herbal formulations. When I tried to interact with many of these healers, they confirmed the information regarding its role in promising herbal formulations but refused to disclose the formulations. I think, this initial information is enough at this stage. The traditional healers do not use any part of Guldaudi for this purpose. Through the on-going Ethno-entomological surveys I am trying my best to gather more information on this aspect. The traditional healers and senior natives are not aware of its other traditional medicinal uses.

In reference literatures, Haplothrips ramakrishnae feeding on Guldaudi is not mentioned as medicinal insect. This research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 315. Kharpudi Ke Sag.

Kharpudi is a local name of *Ceropegia lawii*. It is a well known succulent herb in Chhattisgarh particularly in Southern Chhattisgarh. I have mentioned in previous articles that many species of *Ceropegia* are used as Sag (Curry) in Chhattisgarh. The natives specially the poor natives consume this Sag for its unique taste. It is consumed in limited amount. Kharpudi Ke Sag is prepared by using its tubers. According to the healers, this Sag is having the capacity to remove extra heat from human body. It is also considered useful in treatment of constipation. I have observed during the Ethno-botanical surveys that its popularity is decreasing among the natives of young generation. I have experienced its beneficial effects. I personally feel that there is a strong need to popularize this Sag among the natives again.

Material Required: Kharpudi tubers, Hardi (Turmeric), Namak (Salt), Lason (Garlic), Masale (Spices), Tel (Oil), etc.

Method of Preparation: The tubers are boiled in water. Separately, the pan having oil is kept on fire. Boiled tubers and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Kharpudi, please read my previous articles.

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Traditional medicinal knowledge about *Lyncestis amphix* Cr. (Lepidoptera : Noctuidae) feeding on Tulsi (*Ocimum sanctum*) in Chhattisgarh, India.

Tulsi (*Ocimum sanctum*) is a well known sacred plant of the Indian, grown in houses, gardens and temples all over India. The oil from leaves has the property of destroying bacteria and insects. In reference literatures related to different systems of medicine in India, Tulsi holds a reputed position as medicinal herb. Its all parts are used as medicine both internally as well as externally. The natives and traditional healers of Chhattisgarh are well aware of this herb. It is an integral part of home garden. It is a herb of religious and medicinal importance. Recently, its commercial cultivation has started in Chhattisgarh. The infestation of *Lyncestis* caterpillars is common in Chhattisgarh. The traditional healers consider this problematic pest as medicinal insect. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have collected many valuable information on this aspect. The full fed caterpillars are used both internally as well as externally. It is used internally after purification. The caterpillars are dipped in Neem leaf extract before using it as medicine. After dipping it upto two hours, the caterpillars are dried and converted into powder. This caterpillar powder is considered very useful in treatment of respiratory troubles. It is added in popular herbal combinations as main ingredient. According to the healers, without this powder most of the formulations are incomplete. Externally, in combination with Cow urine and Kali Mitti (Black soil), the caterpillar powder is used externally in treatment of Daad (Ring worm). It is applied on affected parts in form of aqueous paste. As other promising alternatives are available to

manage the Daad effectively, the healers use this combination less commonly. From documentation point of view it is an important information. The healers are not aware of its other traditional medicinal uses.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 314. Van Gondla Ke Sag.

Van Gondla is a local name of *Cyperus bulbosus*. It is a small herb in Chhattisgarh. Its tubers are used as medicine but it is considered less efficient than the Gondla (*Cyperus rotundus*). The natives and traditional healers are aware of its medicinal properties and uses. Its tubers are used more commonly as folk medicine. Van Gondla Ke Sag is prepared by using the tubers. This preparation is popular among the natives of poor community. They consume it for its specific taste. The natives living in Mahanadi river belt, frequently use it as Sag (Curry). The traditional healers of Chhattisgarh are aware of its health benefits. The patients having kidney related troubles are advised to never miss the chance of utilization of tubers as Sag.

Material Required: Van Gondla Tubers, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The tubers are roasted well and crushed into small pieces. The pan having oil is kept on fire. The tuber pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Van Gondla, please read my previous articles.

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Traditional medicinal knowledge about *Metanastria hyrtaca* C. (Lepidoptera : Lasiocampidae) feed on Harshringar (*Nyctanthes arbor-tristis*) in Chhattisgarh, India.

Harshringar (*Nyctanthes arbor-tristis*) is a well known herb in Chhattisgarh. It is generally planted as ornamental herb in home gardens. The natives and traditional healers are aware of its medicinal properties and uses. Its different parts play important role in popular herbal combinations. Many insect species infest Harshringar. I have mentioned in previous articles that many insects feeding on Harshringar are used as medicinal insects. *Metanastria* is one of these insects. The traditional healers of Chhattisgarh are aware of its medicinal uses. Although it is used less frequently but from documentation point of view it is an important information. Through the Ethno-entomological surveys conducted among these traditional healers in recent past, I have collected many valuable information on this aspect. The full fed grayish caterpillars are used both internally as well as externally. For internal use it is purified by dipping it in herbal solution upto long time in order to eliminate its toxic contents. As traditional secret, the traditional healers do not want to disclose the ingredients of solution. Internally, the caterpillar powder is taken in form of dry powder. It is popularity used to flush out the intestinal worms. Before giving this powder with Shahad (Honey), the patients are given a piece of Gud (Jaggery). According to the traditional healers a piece of Gud brings all the worm at one place inside the body and when caterpillar powder is given after sometimes, it flushes out all the worms effectively in very less time. The healers are not in favour of using caterpillar powder with medicinal herbs. In treatment of sciatica, the caterpillar powder is added in popular herbal combinations used in form of decoction but as other promising alternatives are available it is used less commonly. The traditional healers are not aware of its other medicinal uses. Through the on-going Ethno-entomological surveys I am trying my best to gather more information on this important aspect.

In reference literatures, *Metanastria hyrtaca* feeding on *Harshringar* is not mentioned as insect. It seems that the present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Trypanea amoena* F. (Diptera : Tephritidae) feeding on *Genda* (*Tagetes erecta*) in Chhattisgarh, India.

According to the reference literatures, *Genda* is a herb native to Mexico. It is grown in gardens. Its flowers, leaves and stems are source of an essential oil. The flower heads are commonly used in religious ceremonies and an infusion of plant is used against rheumatism, cold and bronchitis. In Chhattisgarh, *Genda* or *Gonda* is well known herb. Its all parts are used as folk medicine. It is an integral part of typical home gardens. Very recently its commercial cultivation for the flowers and oil have been started in the state. *Trypanea* is a common pest of *Genda*. According to the reference literatures related to Entomology, the larvae and the pupae are embedded in the thalamus at the base of the disc of the florets. As a result of the pest infestation the ray florets become clustered at the middle tending to form a cone. In Chhattisgarh, this problematic pest is considered a gift of nature and used as folk medicine. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past I have collected many valuable information on its traditional medicinal uses. The full fed larvae are used both internally as well as externally as medicine. The traditional healers of Nagri-Sihawa region add the larval powder as main ingredients in popular herbal combinations used in treatment of different types of fever. It is considered specially suitable for Typhoid. The larval powder is not used alone. The traditional healers of Gandai-Salewara region use the larval powder both internally as well as externally in treatment of Mirgi (Epilepsy). Internally it is

taken in small amount in combination with Shahad (Honey). Its long term use is considered beneficial. Externally, the larval powder is used during acute attack. In combination with medicinal herbs like Bach (Acorus calamus) it is burnt and fumes are directed into the nostrils of patients. It is considered as one of the promising first aid measures. The traditional healers of Charama region, use the larval powder externally in treatment of skin diseases. It is used in combination with Cow urine. The full fed larvae are used to prepare the larval powder. According to the healers, once prepared in bulk, the larval powder can be stored upto many years. But as the infestation is common, every year fresh powder is prepared. The traditional healers are not aware of its other traditional medicinal uses.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 166. Pardeshi Phal Ke Shurbut.

In general, the fruits of all exotic herbs are named as Pardeshi (foreign) phal (fruits) in Chhattisgarh. The fruits of Doryalis caffra are also known as Pardeshi Phal in the state. This thorny bush is a native to Africa and introduced in Chhattisgarh Plains in recent past. It is grown as hedge plant. The traditional healers have welcomed this guest and they are in process of establishing it as medicinal herb. Pardeshi Phal Ke Shurbut is prepared by using its fruits. This Shurbut is becoming popular among the traditional healers. The patients having throat problem and stomatitis are suggested by the healers to gargle with this Shurbut and swallow the tasty

solution. It is also considered beneficial for digestive system related troubles. I have tasted and experienced its benefits. I personally feel that there is a strong need to popularize it among the natives. To prepare the Shurbut, the juice is extracted from highly acidic fruits. In this juice, the sugar syrup is added and the Shurbut is kept under moonlight upto a week. After this duration, the Shurbut is considered ready for consumption.

For the botany, traditional and reported medicinal uses of *Doryalis caffra* please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 165. Lampali Ke Shurbut.

Lampali or Lampali is local name of *Duabanga grandiflora*. It is a large tree distributed in many parts of India. Its distribution in Chhattisgarh is limited in isolated pockets. It is one of the less known trees of Chhattisgarh. The herb collectors and traditional healers are aware of its natural presence in wild. According to the reference literatures, its wood is used for tea-boxes and canoes. It is an excellent wood for light rafters, battens and wall-boardings. Aware of these uses many plantation owners of Chhattisgarh have started its plantation in Chhattisgarh Plains. Lampali Ke Shurbut is prepared by using its acidic taste fruits. The traditional healers recommend this Shurbut as supplement treatment along with main treatment of digestive system related troubles. This Shurbut is considered very useful in treatment of Piles (Bavasir). The common natives are not much aware of this preparation. To prepare the Shurbut, the juice is extracted from fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and chashni are mixed and the Shurbut is filled in bottles for round the year use. As per the recommendation of traditional healers it is taken internally with water.

For the botany, traditional and reported medicinal uses of Lampali please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 313. Chuprialu ke Sag.

Chuprialu is a local name of *Dioscorea alata*. It is climbing shrub native to East Asia. It is under cultivation in many parts of India including Chhattisgarh. Its wild occurrence has also been reported. The natives and traditional healers of Chhattisgarh are aware of its presence. They use its all parts as medicine. Chuprialu Ke Sag is prepared by using its tuber. Before preparation of Sag (Curry), it requires detoxification. The natives have traditional method for it. The natives consume this preparation for its specific taste whereas the traditional healers are aware of its health benefits. They recommend its use as curry to the patients having rheumatism.

Material Required: Chuprialu tubers, Hardi (Turmeric), Namak (Salt), Lason (Garlic), Tel (Oil), Masale (Spices) etc.

Method of Preparation: After detoxification the tubers are cut into small pieces. The pan having oil is kept on fire. Small tuber pieces and all ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have listed over 100 methods of its preparation. You will find the details in coming articles.

For the botany, traditional and reported medicinal uses of Chuprialu, please read my previous articles.

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Traditional medicinal knowledge about *Crocallis* species (Lepidoptera : Pyralidae) feeding on Jason (*Hibiscus rosa-sinensis*) in Chhattisgarh, India.

Jason (*Hibiscus rosa-sinensis*) is a common, evergreen, ornamental shrub. Its flowers yield dark-purplish dye which is used for making shoe polishes. In Chhattisgarh, it is planted in home gardens. For the natives and traditional healers of Chhattisgarh, Jason is a herb of religious and medicinal importance. All parts of Jason are used as folk medicine both internally as well as externally in treatment of many common diseases. Many insect species attack this garden plant. I have mentioned in previous articles that the traditional healers of Chhattisgarh use these insect species for medicinal purposes. *Crocallis* caterpillars infesting Jason leaves are also considered as medicinal insect. Through the recently conducted Ethnoentomological surveys I have collected many valuable information on traditional medicinal uses of this caterpillar. The traditional healers of different regions use it for different purpose. The traditional healers of Raipur region use the dried caterpillars in powder form, in treatment of Daad (Ring worm) common in rainy season. In general it is applied externally on affected parts in form of aqueous paste but in complicated cases, it is used in combination with medicinal herbs. The combination of Charota (*Cassia tora*) seeds and caterpillar powder is one of the popularly used combinations. The traditional healers of Narharpur region boil the full fed caterpillars and prepare a decoction. This decoction is given internally. It is considered as promising laxative. In general, the decoction is given to purify the body before starting the systematic treatment. The caterpillars are not used with herbs for this purpose. Many healers of Southern Chhattisgarh consider it as blood purifier but I have yet not seen its practical uses. The traditional healers are not aware of its other traditional medicinal uses. Many healers use the caterpillars as such whereas many healers use it after purification. The healers performing purification operation informed that the purpose of purification is to eliminate its toxic contents. Through the on-going surveys I am trying my best to gather more details on this important aspect.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. Through this article, it is coming for the first time among the world community.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Cacoecia epicryta* meyr. (Lepidoptera : Tortricidae) feeding on Champa (*Michelia champaca*) in Chhattisgarh, India.

Champa (*Michelia champaca*) is a large tree generally planted in home gardens. It is also under cultivation in many parts of India for its oil, obtained from flowers and used in perfumery. The sweet-scented, yellow flowers are offered in worship. Champa is well known tree in Chhattisgarh. For the traditional healers it is a valuable medicinal herb. Its all parts are used as medicine both internally as well as externally in treatment of many common diseases. In reference literatures related to different systems of medicine in India, Champa holds a reputed position as medicinal herb. The infestation of *Cacoecia epicryta* is common on Champa. Besides Champa, this leaf eating caterpillar is also a valuable medicine for the traditional healers of Chhattisgarh, particularly the healers engaged in treatment of Jahar (Poison). Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted many valuable information on this important aspect. After purification the full fed caterpillars are used internally to nullify the harmful effects of different types of poison. The traditional healers of Bagbahera region, specialized in treatment of snake bite, recommend the caterpillar powder upto long time, after complete treatment. According to them, the caterpillar powder is capable of nullifying the residual effect of poison after complete treatment. The traditional healers of Gandai-Salewara region start the systematic treatment of any patient from the caterpillar powder. According to them in majority of the cases, the few doses of caterpillar

powder cures the trouble effectively in very less time. They explained that the internal use of caterpillar cleans the body and when after this cleaning, the herbal formulations are given, it acts in more promising way. Shri Vishal Bharat, a well known traditional healers of Bastar region, was using this caterpillar in treatment of cancer. But majority of traditional healers informed that it is effective at initial stages only. The traditional healers are not aware of its other traditional medicinal uses.

The above mentioned traditional medicinal uses are of great relevance as it can save thousands of life around the world effectively. I personally feel that there is a strong need to start a systematic research on different aspects of this medicinal insect without any delay.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Glyphodes glauculalis* (Lepidoptera : Pyralidae) feeding on Chandni (*Tabernaemontana divaricata*) in Chhattisgarh, India.

Chandni (*Tabernaemontana divaricata*) is a well known ornamental shrub. The red pulp around its seeds is used as dye. The flowers are made into garlands and offered in worship. The women use garlands as hair ornaments. In Chhattisgarh, Chandni is planted in home gardens. Since generations, the natives and traditional healers are aware of its medicinal properties and uses. It is a popular folk medicine. *Glyphodes glauculalis* Gr. is a common pest of Chandni not only in Chhattisgarh but also on other parts of India. The greenish caterpillar of this light blue moth is a leaf folder. The plants are totally defoliated at times by this pest. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of many parts use the full fed caterpillars as medicine. The caterpillars are used both internally as well as externally. The healers of Chhattisgarh Plains use it internally in powder form in treatment of pain. The full fed caterpillars are collected and after shade drying converted into powder. In treatment of headache particularly Adhasisi (Migraine), the healers give the caterpillar powder internally in combination with cow ghee to the patients.

This use is popular among them. Its popularity clearly indicates its efficacy. The traditional healers of Southern Chhattisgarh use the caterpillar powder externally in treatment of painful swelling. In general, it is used in combination with medicinal herbs. The traditional healers of Gandai-Salewara region informed that the adult of this caterpillar can be used in treatment of Safed Dag (Leucoderma). The adults are crushed and in combination with cow urine and aqueous paste is prepared. This paste is applied externally on affected parts. As other promising herbal alternatives are available, it is used less commonly. The male insects are preferred. Although the traditional healers are unaware of this specific use but I feel it is very necessary to start a systematic research on this important aspect in order to search the true explanation for the coming generations. Like the knowledge about other medicinal insects, the knowledge about this insect is not secret. This is the reason many natives are also aware of these uses. I have seen the caterpillar and adult powder with the herb vendors also. The traditional healers of Chhattisgarh are not aware of its other medicinal uses.

In reference literatures, *Glyphodes glauculalis* feeding on Chandni is not mentioned as medicinal insect. This article is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 312. Kamal Patta Ke Sag.

Kamal is a local name of *Nelumbo nucifera*. It is perennial water plant with stout and Creeping rhizome. It is distributed throughout India in ponds, tanks and lakes, upto 1800 meters. It is cultivated in marshy lands and propagated through the seeds and rhizomes. Kamal is well known herb in Chhattisgarh. Kamal Patta Ke Sag is prepared by using its leaves. The natives consume it for its specific taste but the traditional healers are aware of its health benefits. It is considered as promising tonic. The patients recovering from exhaustive diseases are suggested

by the healers to never miss the chance of its consumption. Its use during pregnancy is not preferred. It is also used as remedy to stomach related disorders. The newly emerged young leaves are preferred to prepare the Sag (Curry).

Material Required: Kamal leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. Kamal leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Kamal, please read my previous articles.

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Traditional medicinal knowledge about *Nymphula* sp. (Lepidoptera : Pyralidae) feeding on Kamal (*Nelumbo nucifera*) in Chhattisgarh, India.

Kamal is a common aquatic herb whose rhizomes, seeds and young leaves are eaten as vegetable. The rhizome yields a kind of arrow root which is given in dysentery. The fragrant flowers are made into garlands and used for decoction and also offered in worship. Kamal is well known herb in Chhattisgarh. Since generations its different plant parts are in use as folk medicine. The infestation of *Nymphula* caterpillars are common not only in Chhattisgarh but also in other parts of India. The caterpillar has tracheal gills and feeds on leaves of Kamla. The traditional healers of Chhattisgarh Plains are aware of its medicinal properties and uses. Through the recently conducted Ethno-entomological surveys I have collected many valuable information on this aspect. The full fed caterpillars are used in powder form. It is commonly used

internally as medicine alone or in combination with medicinal herbs. The traditional healers of Raipur region use the caterpillar powder in treatment of common fevers. In combination with Shahad (Honey) it is given internally. According to the healers, its internal use helps in reducing the temperature. Many times it is used as supplement treatment with main treatment. The caterpillar powder is also used with Kamal leaves on which the caterpillar feeds. The traditional healers of Durg region of Chhattisgarh Plains use the full fed caterpillars in powder form in treatment of diarrhea. It is generally added in popular herbal combinations as an important ingredient. According to the traditional healers, this powder plays an important role in herbal combinations. The traditional healers of other parts of India are also aware of these uses. The collection of full fed caterpillars is common in Chhattisgarh. Many herb traders are engaged in its commercial trade. As it is aquatic herb and the collection of caterpillar is difficult task, the collectors charge high price for the collection. The farmers engaged in commercial cultivation of Kamla are earning an additional income from this enemy. The commercial product based on this caterpillar is still not available in markets. I personally feel that there is a strong need to conduct a systematic research on this aspect without any delay.

In reference literatures, these traditional medicinal uses of Nymphula caterpillars feeding on Kamal have yet not been reported. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 164. Anshpal Ke Shurbut.

Anshpal is a local name of Euphorbia longan. According to the reference literatures, it is an ornamental tree cultivated in many parts of India for its edible fruits. In Chhattisgarh, it is planted as avenue tree from where it has escaped to wild. It is present in isolated patches. I have seen its good population at Chhattisgarh Plains. The traditional healers of Chhattisgarh are aware of its less but important traditional medicinal uses. For the first time, I got information about this

preparation from Shri Vishal Bharat, a well known traditional healer of Bastar region. He was recommending it to the patients having troubles due to excess body heat. Anshphal Ke Shurbut is prepared by using its fruits. This Shurbut is not much popular among the common natives. To prepare the Shurbut, the juice is extracted from fruits. The sugar is added in this juice and the combination is kept in sunlight upto one month. After this duration, the Shurbut is considered ready for consumption. Diluted with water it can be used round the year as per recommendations of the healers.

For the botany, traditional and reported medicinal uses of Anshphal please read my previous articles.

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Traditional medicinal knowledge about *Polytela gloriosae* Fab. (Lepidoptera : Noctuidae) feeding on Kalihari (*Gloriosa superba*) in Chhattisgarh, India.

Kalihari is well known medicinal herb in Chhattisgarh. It is an ornamental climbing herb. The dense forests of Chhattisgarh are rich in natural population of Kalihari. This medicinal herb is also under cultivation in fairly large areas. The traditional healers have in depth traditional medicinal knowledge about this herb. Its tubers are used for its anthelmintic properties. Commercially it is cultivated for Colchicine. Many insect species attack on wild and cultivated population of Kalihari. *Polytela gloriosae* is one of these insects. Its infestation is reported in other parts of India also. According to the reference literatures, the moth is stout with mosaic pattern of yellow, red and black on forewings and black hind wings. The smooth caterpillar is pretty looking with black white and red spots. It feeds on leaves. The eggs are laid in clusters on the leaves. The traditional healers of Kalihari rich regions of Chhattisgarh use the full fed caterpillars as medicine. Through the Ethno-entomological surveys conducted in these regions, in recent past I have collected many valuable information on this aspect. The full fed caterpillars are used both internally as well as externally. The traditional healers of Bhopalpatnam region boil the freshly collected full fed caterpillars in water and prepare a decoction. This decoction is used to wash the hair. According to the healers the use of this decoction not only helps in controlling the lice problem but also promotes the hair growth. Many senior natives are also

aware of this use. In general, the healers suggest the patients to wash the hair with this decoction once in a week. They claim that within a month, the patients get rid from trouble. They are not in favour of its long term use. Many healers add medicinal herbs in decoction in order to make it more promising but most of the healers are in favour of using the caterpillar decoction alone. Every time fresh decoction is prepared. Freshly collected caterpillars are used for this purpose. The decoction of caterpillar powder is not used. As the infestation of caterpillars occurs in specific period, the healers use it upto specific season. The off-season use is avoided. According to the healers, the Mother nature has given them other herbs and insects for off-season use. The traditional healers of Chhattisgarh Plains use the full fed caterpillars internally. It is added in popular herbal combinations used in treatment of different types of cancer. Before the use, the full fed caterpillars are purified by adopting traditional purification method. The purpose of the purification is to eliminate the toxic contents present in caterpillars. The traditional healers are not aware of its other traditional medicinal uses. Through the on-going Ethno-entomological surveys, I am trying my best to gather more information on this important aspect. As Kalihari is available in wild in abundance, the traditional healers do not prefer the caterpillars collected from cultivated fields.

In reference literatures, the medicinal properties and uses of this caterpillar have not been mentioned. This article is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 311. Dholi Ke Hardi Bhat.

Dholi is a local name of *Eragrostis tef*. It is a common grassy weed in Chhattisgarh. It is a native to Ethiopia and introduced as fodder crop in Northern India but later it has escaped from the field and established as weed in wastelands. The traditional healers have welcomed this herb

and today they are aware of its many medicinal properties and uses. Dholi Ke Hardi Bhat is a special preparation given to the women in pregnancy particularly in initial months. To prepare this medicinal preparation, the grains of Dholi are cooked as rice grains and in combination with Hardi (Turmeric) it is served. According to the traditional healers, this preparation give extra strength to the women and helps in getting free from all troubles common in initial stages of pregnancy. The use of this preparation is limited to isolated pockets in Chhattisgarh. As it is not much popular, now it is becoming a thing of past.

Material Required: Dholi grains, Hardi (Turmeric), Namak (Salt), and Cow ghee.

Method of Preparation: Dholi grains are cooked similarly to Rice grains. After cooking, cow ghee, Namak and Hardi are added and served hot.

For the botany, traditional and reported medicinal uses of *Eragrostis tef*, please read my previous articles.

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Traditional medicinal knowledge about *Cochlochila bullita* Horn (Hemiptera : Tingidae) feeding on *Coleus aromaticus*, in Chhattisgarh, India.

According to the reference literatures, Pathharchur (*Coleus aromaticus*) is a common hairy herb native to Indonesia. Its leaves are used for flavouring food products. In Chhattisgarh, it is well known herb. For the traditional healers it is a source of valuable medicine. Since generations it is in use in treatment of Renal calculi. Its Hindi name Pathharchur (Patthar-Stone; Chur - to crush), is clear indication of its medicinal uses. In Chhattisgarh, it is present in wild. Also, recently the cultivation of coleus species have started commercially. Many insect species attack on wild population of *Coleus aromaticus*. *Cochlochila bullita* is one of these insect species. According to the reference literatures, this is a highly destructive pest of *Coleus aromaticus*. The

adult is black with hyaline wings. Its thorax has dorsally hollow globular outgrowths, trelliced in design and curved inwards as hollow globules form the other margin of the thorax. The eggs are thrust within the veins or edges of the leaves. The nymphs are flat, black and spinous. All stages of the bug are seen on the leaves sucking sap from them. The infested leaves curl, wither and finally dry up. Besides, medicinal properties and uses of *Coleus*, the traditional healers of *Coleus* rich region of Chhattisgarh are also aware of medicinal uses of *Cochlochila* feeding on it. Through the Ethno-entomological surveys conducted among them, I have collected many valuable information on this aspect. The traditional healers use both nymphs and adult bugs in form of powder in treatment of Mirgi (Epilepsy). Its use during attack is most common. During attack, the powder is burnt and the fumes are directed towards the patients. Many times it is used in combination with medicinal herbs, mainly Bach (*Acorus calamus*) and Jatamansi (*Nardostachys jatamansi*). Besides healers, many natives are also aware of these uses. During the surveys, I observed the insect powder with the herb vendors. They sell it to the traditional healers and interested natives of neighbouring states. In treatment of Mirgi, the nymphs and adults are used in another way. The freshly collected nymphs and adults are boiled in base oil (as base oil mustard seed oil is used) and when all watery contents evaporate the boiling is stopped and special oil is kept for future use. This oil is used both as curative (during attack) and preventive to Mirgi. Two-three drops of oil are applied into the nostrils as treatment. Most of the healers consider it more promising than the insect powder. The traditional healers are not aware of its other traditional medicinal uses.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. The present research article is the first written document on this aspect.

Thank you very much for reading the article.

**Traditional medicinal knowledge about *Sthenias griastor* Fb. (Coleoptera :
Cerambycidae) feeding on *Bougainvillea spectabilis* in Chhattisgarh, India.**

Bougainvillea is a well known woody scandent or straggling shrub planted in home and public gardens of Chhattisgarh for its handsome bracts. Although it is a native to South America and introduced in Chhattisgarh as ornamental shrub but living with this shrub, the traditional healers have developed many promising medicinal uses of Bougainvillea. Although it is not planted for its medicinal properties but the researchers are considering it as future medicinal crop. Many insect species infest this shrub in gardens. *Sthenias griastor* is one of these species. It damages the Bougainvillea stems considerably. The traditional healers of Chhattisgarh Plains use the full fed beetles as medicinal insect. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have collected many valuable information on this important aspect. This beetle is used both internally as well as externally as medicine. Internally, the use of full fed grubs is preferred whereas externally the full fed adults are used. The traditional healers of different parts of Chhattisgarh Plains use it differently. The full fed grubs are collected and after drying, crushed into powder. This powder is added as main ingredient in popular herbal combinations used in treatment of diabetes. According to the healers, these herbal formulations are incomplete without grub powder. As secret traditional knowledge, the grub powder is used. In general, the healers prepare herbal formulations in front of the patients but add the powder secretly. Many patients when try to get the similar results from the herbal combinations, they get very little success. The healers are in favour of its use judiciously as overdoses can cause big troubles. Like other herbs, now they have developed many criteria to judge potential shrub as well as potential insect. Through the on-going Ethno-entomological surveys, I am trying my best to gather more information on these criteria. The full fed adults are having miraculous wound healing properties. In powder form it is added in popular herbal combinations specifically used to treat the old wounds. The traditional healers claim that it is beneficial for cancerous wounds but after purification. The full fed adults are not used alone. The traditional healers are not aware of its other medicinal uses and properties.

In reference literatures, *Sthenias griastor* feeding on Bougainvillea is not reported as medicinal insect. It seems that the present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Bemisia tabaci* feeding on Lemon grass (*Cymbopogon flexuosus*) in Chhattisgarh, India.

According to the reference literatures, Lemon grass is a perennial aromatic grass. It yields East-Indian Lemon grass oil. The oil, obtained from the leaves, is used in perfumery and cosmetics. Lemon-grass oil is basic raw material for manufacture of many aromatic chemicals which find application in soap, perfumery and cosmetic industries. The oil is also used in many pharmaceutical preparations, such as pain balm and disinfectants. Lemon grass is under cultivation as aromatic crop in Chhattisgarh. It is also present in wild. Although it is said to be introduced in recent past but the traditional healers are aware of its medicinal properties and uses. *Bemisia tabaci* is a common pest of Lemon grass in cultivated fields. In the year 1996 when I presented some Lemon grass plants with this insect to the traditional healers of Chhattisgarh specialized in use of medicinal insect, they assured me to conduct a systematic research to search the medicinal potential of this insect. Through the recently conducted ethno-entomological surveys I got opportunity to collect the results of their initial trials. The traditional healers of Narhapur region have found the insect useful in treatment of nervous system disorders. They are using it in long term treatment of Mirgi (Epilepsy) along with medicinal herbs. The traditional healers of Bhopalpatnam region have found the insect very useful in treatment of bronchitis. They are using it internally, in small doses, with medicinal herbs. Most of the healers do not consider the insect safe for its use as single remedy. According to them there is a need for addition of medicinal herbs in each formulation in order to nullify the harmful effects of insects. Many times Lemon grass leaves are used for this purpose. The traditional healers of Bagbahera region informed that the harmful effects of Lemon grass can be eliminated with the help of insect and vice-versa. As their trials are in good progress, I am expecting that very soon, we will have the long list of medicinal uses with us. Through the on-going Ethno-entomological surveys, I am trying my best to meet the traditional healers living in areas where Lemon grass grows as wild population. I am confident that through interactions with them I will be able to gather more information as well as the scientific explanation regarding its effects.

In reference literatures, *Bemisia tabaci* feeding on Lemon grass is not mentioned as medicinal insect. *Bemisia tabaci* feeding on different hosts are used as medicinal insect in treatment of

other troubles, by the traditional healers of Chhattisgarh. You will find the details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Aphis sp. (Hemiptera : Aphididae) feeding on Ratalu (*Dioscorea bulbifera*) in Chhattisgarh, India.

According to the reference literatures, Ratalu (*Dioscorea bulbifera*) is a climbing, herbaceous perennial with large, tuberous roots. The aerial bulbs or tubers, produced in leaf axils, are fleshy and succulent. For eating purpose, it requires detoxification. Ratalu is well known medicinal herb in Chhattisgarh. The natural forests of Chhattisgarh particularly the Southern Chhattisgarh are rich in Ratalu population. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Many insect species attack on natural population of Ratalu. Aphis sp. is one of these species. I have identified it as *Aphis craccivora* but I am confirming it. The traditional healers of Southern Chhattisgarh use it as medicinal insects. Through the Ethno-entomological surveys conducted in this region, I have collected valuable information on this aspect. The full fed nymphs and adults are collected and in dry form, kept for future use. The traditional healers add the insect powder as an essential ingredients in popular herbal combinations used as birth control measure. According to them, they have acquired this knowledge from their ancestors and since generations they are practicing this knowledge, successfully. In general, they do not inform the patients coming to them about the addition of insect powder. Many healers use the insect powder externally also. In combination with Shahad (Honey), a thick solution is prepared and female natives are suggested to apply it inside the vagina, just before the intercourse. It is considered as one of the promising preventive measures. As other promising and cheap alternatives are available it is used less commonly by the traditional healers. But from documentation point of view it is an important information. The popularity of these uses among the healers emphasize the need of systematic research on this aspect without any delay. The traditional healers, are not aware of its other medicinal uses. Through the on-going Ethno-entomological surveys I am trying my best to gather more information on this aspect.

In reference literatures, the above mentioned traditional medicinal uses have yet not been reported. The present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 310. Kariyar Bilauni Ke Murabba.

Kariyar Bilauni is a local name of *Antidesma acuminatum*. It is a common tree in many parts of Chhattisgarh, particularly in parts nearer to Orissa state border. The natives and traditional healers are not much aware of its medicinal properties and uses. Kariyar Bilauni Ke Murabba is prepared by using its matured fruits. This Murabba is considered useful in treatment of constipation. The traditional healers recommend its long term use in order to get rid from this trouble. This Murabba is not much popular among the natives. They prefer its raw fruits.

Material Required: Kariyar Bilauni fruits and Sugar.

Method of Preparation: Kariyar Bilauni fruits are cut into small pieces. These pieces are dipped in Sugar syrup and the combination is kept under moonlight upto a week. After this duration, the Murabba is considered ready for use.

For the botany, traditional and reported medicinal use of *Antidesma acuminatum*, please read my previous articles.

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Traditional medicinal knowledge about *Nysius ericae* (Hemiptera : Lygaeiidae) feeding on Nagdauna (*Artemisia vulgaris*) in Chhattisgarh, India.

According to the reference literatures, Nagdauna (*Artemisia vulgaris*) is an aromatic shrub having great medicinal properties. Its roots are used as tonic and antispasmodic and herb as anthelmintic, antispasmodic and stomachic. An infusion of leaves and flowering tops are given in nervous, spasmodic affections and in asthma. In Chhattisgarh Nagdauna is well known herb. It is planted in home gardens. Also, it is present in wild. The traditional healers have rich traditional medicinal knowledge about this herb. Recently, many innovative herb growers have started its commercial cultivation as aromatic crop. The bug *Nysius ericae* attacks on wild population of Nagdauna. The traditional healers of Nagdauna rich regions use both Nagdauna and bugs as medicine. Through the Ethno-entomological surveys conducted in recent past in these regions, I have collected many valuable information on this aspect. The traditional healers use the full fed bugs both internally as well as externally in treatment of Mirgi (Epilepsy) in many ways. Internally, the bugs are used in powder form. The full fed bugs are collected and after shade drying converted into powder. In normal cases, the bug powder is given internally with Shahad (Honey). In complicated cases, the bug powder is given internally with Shahad (Honey). In complicated cases, the bug powder is given in combination with medicinal herbs. The healers decide the dose by observing the vitality of patients. Externally, the powder is used during attack. The powder is burnt and the fumes is directed to the patients nose. It is considered as one of the promising treatments. The traditional healers of Chhattisgarh Plains, boil the freshly collected bugs in Til (Sesame seed) oil. When all watery contents evaporate the boiling is stopped and filtered oil is used in form of massage. This massage is considered beneficial for the patients having the problem of Mirgi (Epilepsy). The healers claim that the massage delays the further attack. The traditional healers are not aware of its other medicinal uses. The healers use Nagdauna herb for this purpose but according to them, the bugs feed on Nagdauna

possess more medicinal properties than the herb. The healers are practicing this knowledge since generations. Its popularity among them clearly indicates its efficacy.

In reference literatures, these traditional medicinal uses have yet not been reported. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 309. Tumul Ke Murabba.

Tumul is a local name of *Gardenia xanthochymus*. It is a well known tree in Chhattisgarh. The gum-resins from under-ripe fruits and stem make good water-colour. The tribal use this water colour in different ceremonies. For the traditional healers of Chhattisgarh Tumul is an important medicinal tree. They use its all plant parts as medicine both internally as well as externally in treatment of many common diseases. Tumul Ke Murabba is prepared by using its acidic fruits. This preparation is very popular among the natives. They are also aware of its health benefits. It is considered good for digestive system. The traditional healers recommend this Murabba to the patients having the problem of Bavasir (Piles). In general, the natives consume raw fruits. Murabba is prepared for its off-season use.

Material Required: Tumul fruits and Sugar.

Method of Preparation: Tumul fruits are cut into small pieces. These pieces are added in Sugar syrup and the solution is kept under moonlight upto one month. After this duration, the Murabba is considered ready for consumption.

For the botany, traditional and reported medicinal uses of *Gardenia xanthochymus*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 308. Bitmara Ke Sag.

Bitmara is a local name of *Gardenia campanulata*. It is a large, spiny shrub or small tree distributed in many parts of Chhattisgarh. The natives and traditional healers are aware of its medicinal properties and uses. Bitmara Ke Sag is prepared by using its leaves. Among the natives, it is popular for its unique taste. The traditional healers are aware of its health benefits. According to them, this Sag (Curry) is beneficial to the patients having nervous system related troubles. In general it is used as supplement during main treatment of troubles.

Material Required: Bitmara leaves, Lason (Garlic), Turmeric (Hardi), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. The leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Rice).

For the botany, traditional and reported medicinal uses of *Gardenia campanulata*, please read my previous articles.

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Traditional medicinal knowledge about *Aphis craccivora* Koch. feeding on *Geranium* (*Pelargonium graveolens*) in Chhattisgarh, India.

According to the reference literatures, *Geranium* is a native of South Africa, and now under cultivation in many parts of the world including India. The leafy twigs are source of an essential oil, which is used in soap and toilet preparations. *Geranium* oil is used for adulterating otto of roses and also for flavouring tobacco products, tooth powder etc. In Chhattisgarh, *Geranium*, is newly introduced aromatic crop. Its cultivation is limited to Southern Chhattisgarh and at hilly regions. Although the traditional healers and herb collectors claim that it is present in wild but I have yet not seen it. Also the reference literatures on flora do not support its wild occurrence. As the commercial cultivation of medicinal and aromatic crops have started few years back, the infestation of *Aphis craccivora* has been observed on many of these crops. In previous articles, I have mentioned about the damages caused by this Aphid to Kevatch (*Mucuna pruriens*) crop. *Aphis craccivora* is a common pest of leguminous crops. The withering of plants take place when infestation is severe. A female brings forth upto 54 nymphs. Nymphal stage lasts upto 3-8 days. The traditional healers of specific regions where *Geranium* is under cultivation, are taking keen interest in both the herb and *Aphis* attacking on it. They have discovered and developed many medicinal uses of this medicinal insect in short time. Through the Ethno-entomological surveys, in these regions, I have collected many valuable information from the healers. The traditional healers use the full fed nymphs in treatment of nervous system disorders, in many ways. Its use in form of special oil is very popular. The freshly collected nymphs are boiled in

Sarson (Mustard seed) oil and when all watery contents evaporate the boiling is stopped and after filter, the special oil is kept for future use. This oil is massaged in forehead, and soles. It is considered beneficial for the patients having the problem of Mirgi (Epilepsy). Its application also results in sound sleep. The patients having the mental depression are also advised by the healers to use it in same manner. The traditional healers also use the full fed nymphs in powder form. The powder is added with dry herbs. The combination is burnt and the patients having the problem of Mirgi (Epilepsy) are advised to inhale the fumes. It is used during the attack. Also in normal times. Through the on-going Ethno-entomological surveys, I am trying my best to gather more information on this important aspect. You will find the details in coming articles.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Psilogamma menephron* Cr. Feeding on *Aparajita* (*Nyctathes arbor-tristis*) in Chhattisgarh, India.

According to the reference literatures, *Aparajita* is a large shrub or small tree, grown as an ornamental. An orange-coloured dye, obtained from the flowers, is used for colouring silk and cotton. Maharshi Patanjali refers to cloth dyed of this flower as *Sephalika*. The flowers are strong and worn as hair ornaments and necklaces. *Aparajita* is a well known shrub in Chhattisgarh. For the traditional healers, it is a valuable folk medicine. They use its all parts as medicine both internally as well as externally in treatment of many diseases. *Psilogamma menephron* caterpillars feed on the leaves of *Aparajita*. The traditional healers of Chhattisgarh use the full fed caterpillars as medicine. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have collected many valuable information on this important

aspect. The traditional healers use the full fed caterpillars after purification. The objective of purification is to eliminate toxic material from the caterpillars. For purification, the caterpillars are dipped for specific period in herbal solution. The healers do not disclose the contents of the herbal solution. Many healers aware of my on-going documentation work claimed that many bitter herbs and its aqueous extracts are added in the solution as main ingredients. Through the on-going Ethno-entomological surveys I am trying my best to gather more details on this aspect. After purification, the caterpillars are dried and in form of powder stored for future use. The traditional healers of Chhattisgarh specialized in treatment of different types of fever use the caterpillar powder alone and in combination with medicinal herbs in treatment. In treatment of Malarial fever, at initial phase, the traditional healers of Nagri-Sihawa region give the caterpillar powder with Shahad (Honey). In advanced stage, the caterpillar powder is given internally in combination with medicinal herbs. Many times the healers use the insect powder in form of decoction. The traditional healers of Rajnandgaon region informed that the caterpillar powder can be used successfully to flush out the intestinal worms effectively in very less. As other promising alternatives are available, it is used less commonly. From documentation point of view it is an important information. Although Aparajita and this caterpillar are common in many parts of Chhattisgarh but the healers of other regions are not aware of its medicinal uses. The traditional healers of Chhattisgarh Plains are not aware of its other traditional uses.

In reference literatures, *Psilogamma menephron* feeding on *Aparajita* is not mentioned as medicinal insect. The matter of appreciation is that the traditional healers of Chhattisgarh Plains are not only aware of its traditional medicinal uses but also using it in their routine practice. This is good sign.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Aspidiotus glomeratus* (Hemiptera : Diasipididae) feeding on *Khas* (*Vetiveria zizanioides*) in Chhattisgarh, India.

According to the reference literatures, Khas (*Vetiveria zizanioides*) is a perennial grass under cultivation in many parts of India. Its dried roots are made into aromatic scented mats, fans and ornamental baskets and are also woven into curtains which when moistened, cool and scent the air. An essential oil, obtained from roots, is used in perfumery, cosmetics, soaps and for flavouring Shurbuts. The oil is stimulant, diaphoretic and refrigerant. The grass is also used in manufacture of paper and board. In Chhattisgarh, this grass is also used in manufacture of paper and board. In Chhattisgarh, this grass is well known. The dense forests are rich in natural population of Khas. It grows as wasteland herb in many parts. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Although the wild population of almost all parts of Chhattisgarh is infested with *Aspidiotus* but its infestation is remarkably higher in Pendra and Bilaspur region. The traditional healers of these regions use this bug as folk medicine. Through the Ethno-entomological surveys conducted in these regions, I have collected many valuable information on different aspects of this medicinal insect. The full fed bugs are used as medicine both internally as well as externally. For externally use the full fed bugs are collected and after drying converted into powder. In combination with Multani Mitti (Fuller's clay) the bug powder is used in form of aqueous paste in treatment of Migraine (Adhasisi). The aqueous paste is applied on affected parts and after drying washed with the help of water. According to the traditional healers, its repeated use helps in reducing the intense headache effectively in very less time. In treatment of painful swellings, the same combination is used. In treatment of painful boils, in this combination, *Sida acuta* leaves are added. This application absorbs extra heat from boils and suppresses it. The traditional healers of Pendra region informed that this bug powder is a promising blood purifier, if used internally. As other promising herbal alternatives are available, it is used less commonly by the healers. These traditional medicinal uses are very popular among the healers. This popularity clearly indicates its efficacy. The healers are not aware of its other medicinal uses. Through the on-going Ethno-entomological surveys, I am trying my best to gather more information on this important aspect.

In reference literatures, these traditional medicinal uses have yet not been reported. I personally feel that there is a strong need to conduct a systematic research on these traditional uses so that these can be used for the patients around the world.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 307. Biksa ke Sag.

Biksa is a local name of *Hemarthria compressa*. It is a grassy weed commonly grows in wastelands of Chhattisgarh. It is eaten by cattle. For traditional healers, it is a valuable medicinal herb. They use its all parts both internally as well as externally by treatment of many common diseases. In different parts of Chhattisgarh, it is known in different names, but the healers of different regions use it more or less for the same purpose. Biksa Ke Sag (Curry) is prepared by using its leaves and young shoots. This Sag is popular among the traditional healers. They recommend it for specific purpose. According to them the use of this Sag increases the milk production. Hence, the women in lactation are suggested by the healers to never miss the chance of its consumption during availability period. Although it is not very tasty preparation, but as medicine it is consumed sincerely by the natives.

Material Required: Biksa leaves and young shoots, Hardi (Turmeric), Namak (Salt), Lason (Garlic), Tel (Oil), Masale (Spices) etc.

Method of Preparation: Biksa leaves and young shoots are boiled in water. The pan having oil is kept on fire. Biksa leaves and shoots are added in pan with all ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Biksa, please read my previous articles.

Traditional medicinal knowledge about *Deilephila nerii* L. (Lepidoptera : Sphingidae) feeding on Sarpagandha (*Rauvolfia serpentina*) in Chhattisgarh, India.

According to the reference literatures, Sarpagandha (*Rauvolfia serpentina*) is a well known herb of medicinal importance in India. The drug *Rauvolfia* consists of air-dried roots. *Rauvolfia* preparations are used as anti-hypersensitives and as sedatives. It is also employed for relief of various central nervous system disorders associated with psychosis, schizophrenia, insanity, insomnia and epilepsy. The extracts of roots are valued for treatment of intestinal disorders. Mixed with other plant extracts, they are used in treatment of Cholera, colic and fever. The dense forests of Chhattisgarh are rich in natural population of Sarpagandha. Sarpagandha is also under cultivation as commercial medicinal crop. Many insects attack on its wild population. *Deilephila* is one of these insects. The traditional healers of Sarpagandha rich regions of Chhattisgarh use the full fed caterpillars of this hawk moth as medicine. Although the caterpillars are common in Sarpagandha fields also but the caterpillars collected from wild population are only used as medicine. Through the Ethno-entomological surveys conducted in these regions, I have collected many valuable information on traditional medicinal uses of this insect. The traditional healers collect the full fed caterpillars and after drying convert it into powder. Many healers use the caterpillars after purification. The caterpillars is dipped in herbal solution after collection, upto whole night. Next morning, after drying it is used as medicine. As traditional secret they do not disclose the contents of herbal solution but many healers informed that Bach (*Acrocalymma*) and Neem play important roles in the herbal solution. The dried caterpillars in powder form are used internally in combination with medicinal herbs in treatment of mental depression. Although the caterpillar powder is added in very small amount but without this powder, the combination is considered incomplete. The traditional healers of Southern Chhattisgarh add the freshly collected caterpillars in Til (Sesame seed) oil and kept the solution in sunlight for a month. After this duration, the special oil is filtered and used as medicine. This oil is considered as a boon for the patients suffering from Mirgi (Epilepsy). During attack, the oil is massaged on all over the body. In normal days, the oil is massaged in same manner in order to delay the further attack. According to the traditional healers of Narharpur region, the caterpillar powder can be used in treatment of insomnia, internally but as other promising alternatives are available, it is used less commonly. From documentation point of view it is an important information. The traditional healers of Chhattisgarh are not aware of its other traditional medicinal uses.

In reference literatures, *Deilephila nerri* is not reported as medicinal insect. These traditional medicinal uses are coming for the first time among the world community through the present research article.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 306. Dast bar Sag.

Dast is a local name of diarrhea. Dast bar Sag (Curry) is prepared by using the leaves of *Helicia robusta*. The natives and traditional healers have yet not coined its local name. According to them it is introduced in Chhattisgarh in recent past and at initial trials, they have found its use as Sag, beneficial in treatment of diarrhea. The Sag is prepared by using its newly emerged leaves. In reference literatures it is mentioned that its young shoots can also be used as Sag but the natives are not aware of it. In Chhattisgarh, the natural distribution of this herb is limited to hilly regions as wild plant and in Chhattisgarh Plains where it is planted in public gardens. The traditional healers are taking interest in this newly introduced herb and very soon they will be able to search its new uses.

Material Required: Newly emerged leaves, Lason (Garlic), Turmeric (Hardi), Tel (Oil), Masale (Spices), Namak (Salt) etc.

Method of Preparation: The pan having oil is kept on fire. The leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Helicia robusta*, please read my previous articles.

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Traditional medicinal knowledge about *Aceria mangiferae* Sayed. (Acarina : Eriophyidae) feeding on Ama (*Mangifera indica*) in Chhattisgarh, India.

Ama (*Mangifera indica*) is one of the major fruit crops of Chhattisgarh. *Aceria mangiferae* is a problematic pest of Ama. It is also associated with the mango malformation. It attacks the internal and axillary buds resulting in the stoppage of their growth and development of close lateral buds which also are attacked, thereby resulting in buds becoming crowded and malformed. The Eriophyid mite with malformed buds are used as medicine by traditional healers of Chhattisgarh. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have collected some important information on this important aspect. The traditional healers add the freshly collected malformed buds with mites in Til (Sesame seed) oil and keep the mixture in sunlight upto fifty days. After this duration the mixture is filtered and oil is stored. This oil is used for many purposes. The patients having the problem of Insomnia are advised by the traditional healers to massage this special oil on soles in order to get sound sleep. In treatment of bodyache during high fever, the traditional healers of Nagri-Sihawa region recommend the external massage of this oil. It is considered as one of the promising treatments. The traditional healers of Bagbahera region consider this oil useful in treatment of Adhasisi (Migraine). The oil is applied on painful parts during attack. According to the traditional healers both malformed bud and mite play an important role in making the oil medicinally rich. The traditional healers of Gandai-Salewara region consider the oil useful in treatment of skin related troubles but as other promising alternatives are available it is used less commonly. From documentation point of view it is an important information. Many healers of present generation prepare the oil by boiling the buds and mites in base oil, instead of keeping the oil in sunlight. But they are aware that the short cut method not results in promising oil. The

oil prepared by conventional method can be stored upto long time-the healers informed. The traditional healers are not much aware of its other medicinal uses. Through the on-going Ethno-entomological surveys I am trying my best together more information on this aspect.

In reference literatures, *Aceria mangiferae* is not mentioned as medicinal insect. It seems that the present research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Tricentrus congestus* Walker (Hemiptera : Membracidae) feeding on *Asgandh* (*Withania somnifera*) in Chhattisgarh, India.

For the first time I observed the infestation of *Tricentrus congestus* on wild population of *Asgandh* (*Withania somnifera*) during Ethno-entomological surveys in Southern Chhattisgarh. The traditional healers of this region are not only aware of this infestation but also they are using the full fed bugs as medicine. I have yet not seen its infestation in cultivated fields of *Asgandh* in other parts of Chhattisgarh. Also the traditional healers of other regions are not aware of its medicinal uses. The traditional healers of Southern Chhattisgarh use the full fed bug externally in form of special oil. They have specific criteria for the collection of potential bug to be used as medicine. Very active bugs are not considered suitable. *Asgandh* herbs growing near to water bodies are not preferred for the collection of bugs. The bug sited on other herbs although it is feeding on *Asgandh*, is ignored. When the healers visit to natural forest for the collection of this bug, they keep blue coloured cloth with them. The bugs are transported to the homes in this cloth. They are unable to give the scientific explanation but as traditional practice, they are following it sincerely. As the infestation of *Tricentrus* is common on *Asgandh*, the healers collect

the fresh lot of bugs every year, but they are aware that how the bugs can be stored safely upto very long time. If stored properly, the fresh and old bugs give similar results-the healers informed. Like worship ceremony performed before the collection of herbs by the healers, during the collection of *Tricentrus* the healers adopt the same procedure. The traditional healers of Southern Chhattisgarh, prepare a special oil from freshly collected full fed bugs. The bugs are dipped in Sarson (Mustard seed) oil and the mixture is kept under sunlight for a month. After this duration, the mixture is filtered and special oil is collected. This special oil is considered as a boon for the patients having all types of skin related troubles. This oil is used externally. Although through this special oil, common cases of skin diseases can be treated successfully but the traditional healers use this oil for complicated cases. It is used in treatment of old wounds, also in treatment of cancerous wound. Its effectiveness has established this oil as promising oil. Many healers add medicinal herbs in this oil during its preparation but most of the healers confirmed that alone insect based oil is capable of treating most of the cases, successfully. The traditional healers are not aware of its other traditional medicinal uses. Through the on-going ethno-entomological surveys, I am trying my best to gather more information on this important aspect. The special oil is not available as commercial product in market. I personally feel that there is a tremendous scope in this field.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Poophilus costalis* Walk. (Hemiptera : Cercopidae) feeding on *Asgandh* (*Withania somnifera*) in Chhattisgarh, India.

Poophilus costalis is a polyphagous insect. In Chhattisgarh, it commonly attacks on Rice and Sorghum. According to the traditional healers of Southern Chhattisgarh, this insect also attacks on Asgandh (*Withania somnifera*) in wild. In cultivated fields of Asgandh, in Chhattisgarh Plains I have yet not seen its infestation. The traditional healers of Southern Chhattisgarh use the *Poophilus costalis* feeding on Asgandh as medicinal insect. Through the Ethno-entomological surveys conducted in different parts of Chhattisgarh, particularly in Southern Chhattisgarh, I have collected some important information on traditional medicinal uses of this insect. According to the traditional healers, they are aware of its promising aphrodisiac properties since generations. As aphrodisiac, it is used both internally as well as externally. The full fed bugs are used both in fresh and dry form. Internally, it is used in dry form. The freshly collected bugs are dried in shade and converted into powder. The powder is added in popular herbal combinations used as aphrodisiac, as main ingredient. The healers informed that most of the formulations are incomplete without this insect powder. You will be surprised to know that Asgandh herb is not added in these formulations. Few healers are in favour of its use alone but most of the healers use it in combination with medicinal herbs. They explained that the Tasir (Nature) of this powder is hot and if used alone, in majority of the cases it can cause harms. The presence of medicinal herbs in the formulations helps in nullifying the harmful effects. They further informed that this insect powder nullifies the harmful effects of many herbs also. Externally, the freshly collected full fed bugs are used in form of special oil. The bugs are dipped in Sarson (Mustard seed) oil upto forty days. During this period, the solution is kept under sunlight. After forty days, the solution is filtered and special oil is collected. This special oil is used to massage the genitals. Instead of its use in amusement the traditional healers recommend this special oil as medicine, to the patients having poor sexual desire. According to the healers, both internal as well as external uses at a time cure the trouble effectively in very less time. In general, the traditional healers do not disclose this formulation to any one even to their blood relatives. The long queue of the patients clearly indicated the efficacy of this insect powder based medicine.

These traditional medicinal uses have not been reported in reference literatures. Also, *Poophilus costalis* feeding on other hosts has yet not been reported as medicinal insect. As this insect is common in many parts of the world, I am expecting that the information on traditional medicinal uses of *Poophilus* will be of great use for the researchers around the world.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 305. Dudhia Kalmi Ke Sag.

Dudhia Kalmi is a local name of *Ipomoea alba*. Because of its white flowers, it is known as Dudhia (Milky) Kalmi in Hindi and Moon flower in English. It is planted as ornamental herb. It is a native to tropical America. In many parts of Chhattisgarh, it has escaped from the gardens and established as wasteland weed. The natives and traditional healers are aware of its natural presence. The healers have discovered and developed many promising medicinal properties and uses. Dudhia Kalmi Ke Sag is prepared by using its leaves and freshly calyces. The traditional healers consider this Sag (Curry) as a boon for the patients having the problem of Safed Daag (Leucoderma). The patients are advised to take this Sag as supplement to main treatment of Leucoderma. The natives consume it for its specific taste. They are not much aware of its health benefits.

Material Required: Dudhia Kalmi leaves and fleshy calyces, Namak (Salt), Tel (Oil), Hardi (Turmeric), Lason (Garlic), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Dudhia Kalmi leaves and fleshy calyces are added in pan with all other ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Dudhia Kalmi, please read my previous articles.

Herbal dishes of Chhattisgarh, India. 304. Ban Kalmi Ke Sag.

Ban Kalmi is a local name of *Ipomoea maxima*. In previous articles I have mentioned that many *Ipomoea* species are used as pot herb in Chhattisgarh. *Ipomoea maxima* is one of these pot herbs. It is a twinning herb common in almost all parts of Chhattisgarh. In many parts, it is considered as weed by the farmers. The traditional healers are not much aware of its medicinal properties and uses. Ban Kalmi Ke Sag is prepared by using its leaves. The traditional healers recommend this Sag (Curry) to the patients having the problem of constipation. It is also considered beneficial for the patients having Piles (Bavasir). The senior natives are also aware of these uses.

Material Required: Ban Kalmi leaves, Hardi (Turmeric), Namak (Salt), Tel (Oil), Spices (Masale) etc.

Method of Preparation: The pan having oil is kept on fire. Ban Kalmi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). When it is prepared for the patients having Piles, the spices are added in less amount. The natives of different regions prepare this Sag by adopting different methods.

For the botany, traditional and reported medicinal uses of *Ipomoea maxima*, please read my previous articles.

Traditional medicinal knowledge about *Leptocentrus substitutes* Wlk. (Hemiptera : Membracidae) feeding on *Asgandh* (*Withania somnifera*) in Chhattisgarh, India.

Leptocentrus substitutes is a well known polyphagous insect. In Chhattisgarh, it is becoming a problematic pest of sunflower. It damages tender shoot and stem. In regions, where *Asgandh* grows naturally in wild, the infestation of *Leptocentrus* is common. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that many traditional healers use the insect feeding on *Asgandh* as medicinal insect. The full fed bugs are used most commonly. The bugs are collected and in powder form taken internally as treatment. The healers of Bilaspur region use the insect powder in treatment of diarrhea. In normal cases, the insect powder is given internally with Shahad (Honey). In complicated cases of diarrhea, the insect powder is added in popular herbal combination in which Sonth (Dried Ginger), Saunf (Fennel) and Shakkar (Sugar) are added in equal proportion and pinch of combination is taken internally. The healers have deep faith in this combination and this is the reason they use it very frequently in their routine practice. The traditional healers of Pendra region use the full fed bugs in powder form as general tonic. The patients recovering from exhaustive diseases are suggested by the traditional healers to take few pinches of this powder with cow milk as body tonic. Earlier, the traditional healers of Pendra region were not aware of medicinal use that were in existence in Bilaspur region and vice-versa, when I informed them, they tried and found it very effective. The traditional healers of other regions are not aware of these uses although both *Asgandh* and the bug are common in these regions. Through the on-going survey, I am informing the healers about it and getting their feed backs.

In reference literatures, *Leptocentrus substitutes* feeding on *Asgandh* is not mentioned as medicinal insect. Through the present article, this information is coming for the first time among the world community.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 303. Dholsamudra Ke Sag.

Dholsamudra is a Hindi name of *Leea macrophylla*. Although this perennial shrub is present in different parts of Chhattisgarh but the natives have yet not coined its local name and kept it in the category of Van Kachra (Waste plant). The traditional healers of Chhattisgarh are aware of its medicine properties and uses. Dholsamudra Ke Sag is prepared by using its leaves. Among the natives, this Sag (Curry) is popular for its unique taste but the traditional healers are aware of its health benefits. It is considered as promising blood purifier. The patients having skin related troubles are advised the traditional healers to never miss the chance of its consumption during availability period.

Material Required: Dholsamudra leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Dholsamudra leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Dholsamudra, please read my previous articles.

Traditional medicinal knowledge about Gram pod borer *Helicoverpa armigera* (Hubner) feeding on *Paninoid* (*Convolvulus hispidus*) in Chhattisgarh, India.

Paninoid (*Convolvulus hispidus*) is a robust, twisting annual commonly grows as wasteland herb. Its leaves and stems are used as vegetable. Gram pod borer *Helicoverpa armigera* is well known polyphagous insect. Besides, its heavy infestation on Gram, it attacks on many wasteland herbs. *Paninoid* is one of these herbs but the infestation is relatively less in Chhattisgarh. The traditional healers of Chhattisgarh Plains aware of medicinal properties and uses of *Helicoverpa* feeding on different hosts, are using the full fed caterpillars collected from *Convolvulus hispidus* herb, as medicine. Through the Ethno-entomological surveys conducted in recent past, I have collected the information on its traditional medicinal uses. The full fed caterpillars are used internally in powder form. The traditional healers specialized in treatment of different types of fever add the powder in popular herbal combinations used in treatment. Although the caterpillar powder is added in smaller amount but according to the traditional healers it plays an important role in the formulation. The traditional healers of Raipur region use the caterpillar powder in treatment of spleen related troubles. You will be surprised to know that *Paninoid* is not used in treatment of these diseases. I personally feel that there is a strong need to start a systematic research on this aspect as alone *Paninoid* or *Helicoverpa* is not used as medicine for spleen related troubles and in treatment of fever but full fed caterpillar possess the natural chemicals beneficial for these troubles. The traditional healers are not aware of its other medicinal uses. Through the on-going surveys I am trying my best to gather more information on this important aspect.

These traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

Traditional medicinal knowledge about *Helicoverpa armigera* (Hubner) feeding on *Lesua* (*Digera muricata*) in Chhattisgarh, India.

Lesua (*Digera muricata*) grows as wasteland herb in Chhattisgarh. Its tender twigs and inflorescences are used as vegetable. Since generations, this herb is in use as folk medicine. The traditional healers have rich traditional medicinal knowledge about this herbs. Its all parts are used both internally as well as externally in treatment of many common diseases. During winter season, the infestation of Gram Pod borer *Helicoverpa armigera* is common on this herb. Gram pod borer is a notorious and polyphagus insect. Although for the farmers and researchers it is a problematic pest but for the traditional healers of Chhattisgarh, it is a source of valuable medicine. I have mentioned in previous articles that how the Gram pod borer feeding on different hosts are used as medicinal insect by traditional healers. During the Ethno-entomological surveys conducted in Chhattisgarh Plains in recent past, I got an additional information about traditional medicinal uses of *Helicoverpa* caterpillars feeding on *Digera* leaves. The traditional healers of Chhattisgarh Plains informed that the full fed caterpillars are used in form of dry powder as medicine. According to them, they have to adopt special precautions during the collection of potential insect. All *Digera* herbs are not considered suitable for the collection of caterpillars. The healthy herbs can give potential caterpillars - they informed. Many times the healers have to wait one or two season for the collection of potential insect and in the mean time they have to use the stored caterpillar powder. Facing this problem commonly, they have developed the methods to kept the insect powder safely upto long time. The traditional healers use the caterpillar powder externally in order on reduce the pain. It is commonly used in treatment of Migraine (Adhasisi). In form of aqueous paste the powder is applied externally on painful parts. Many times the herb juice is used in place of water to prepare the aqueous paste. The traditional healers of Dhamtari region burn the powder and suggest the patients having nervous disorders to inhale the fumes. As other promising alternatives are available it is used less commonly but from documentation point of view it is an important information.

In reference literatures, these traditional medicinal uses of *Helicoverpa* feeding on *Digera* have yet not been reported. I am feeling fortunate to document this important traditional knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Spilostethus hospes* Fb. (Lygaeidae : Hemiptera) feeding on *Asgandh* (*Withania somnifera*) in Chhattisgarh, India.

In general, *Spilostethus hospes* is one of the lygaeids that feeds on agricultural crops of economical importance. It commonly attacks on Cotton. In Chhattisgarh, particularly in Southern Chhattisgarh, it infests the wild population of *Asgandh* (*Withania somnifera*). The traditional healers of Bhopalpatnam, Bijapur, Konta and Dantewada regions are aware of many medicinal properties and uses of this Bug feeding on *Asgandh*. Through the Ethno-entomological surveys conducted in recent past, I have noted many valuable information on this important aspect. The full fed adults are preferred. The Bugs are collected and dried in shade. After drying, by crushing powder is prepared. This powder is given internally as medicine. According to the traditional healers of Bhopalpatnam region, the regular use of this powder in small amount flushes out the intestinal worm effectively in very less time. Before giving insect powder with Shahad (honey), the patients are advised to eat Gud (Jaggery). The Jaggery brings all the worms at one place inside the body and few minutes after its intake, the insect powder and Shahad are given. The traditional healers informed that they have gained this knowledge from their ancestors and without any modification, using it since generations. Its popularity among them clearly indicates its efficacy. In use of insect powder with medicinal herbs, the healers have difference in opinion. Most of the healers are in favour of using insect powder alone, internally. They are unanimous in use of insect powder externally in combination of medicinal herbs, in treatment of Diabetic carbuncle. The combinations are applied on wounds. According to the healers, the insect powder plays an important role in making the combinations useful and without it, many combinations are incomplete. The traditional healers of other regions of Chhattisgarh are not aware of these traditional medicinal uses, although both *Asgandh* and *Spilostethus* are common in other regions.

In reference literatures, *Spilostethus hospes* is not mentioned as medicinal insect. It seems that the present research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 302. Chhote Van Gobhi Ke Sag.

Chhote Van Gobhi is a local name of *Launaea nudicaulis*. It grows as wasteland weed in Chhattisgarh. The plant is used as fodder for goat. The natives and traditional healers have in depth traditional medicinal knowledge about all *Launaea* species including *Launaea nudicaulis*. The reference literatures related to different systems of medicine in India are also full of information regarding its medicinal properties and uses. Chhote Van Gobhi Ke Sag is prepared by using its leaves. The traditional healers, aware of its health benefits, consider it as a boon for the patients having the problem of chronic constipation. The natives consume it for its specific taste. I have observed that among the natives of young generation this Sag (Curry) is losing its popularity day by day. By informing these natives about its health benefits, it can be popularized among them because constipation is common problem of modern age.

Material Required: Chhote Van Gobhi leaves, Lason (Garlic), Namak (Salt), Hardi (Turmeric), Namak (Salt), Tel (Oil), etc.

Method of Preparation: The pan having oil is kept on fire. Chhote Van Gobhi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Launaea nudicaulis*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 301. Sewan Ke Mithai.

Sewan is a local name of *Lasiurus hirsutus*. It is a perennial grass distributed in sandy areas of Chhattisgarh. I have seen its dense population of Sirpur region near to Mahanadi river and at Bagbahera region. The young grass is eaten by cattle and at maturity used for thatching purpose. The traditional healers these regions are aware of its natural occurrence but use it less frequently as medicine. Many senior natives informed during the Ethnobotanical surveys conducted in these regions that in early days Sewan Ke Mithai was in use. This sweet preparation is prepared by using its seeds. The senior natives further informed that in early days they were recommending this preparation as one of the first foods to the women just after the child birth. This preparation not only gives extra strength but also helps in healing the new wounds. The natives are unable to give the reason for its decreasing popularity among them. I personally feel that there is a strong need to popularize this sweet preparation among the natives of young generation.

Material Required: Sewan seeds, Cow ghee, Ata (Wheat flour) and sugar.

Method of Preparation: Sewan seeds are roasted well. Separately, Ata is roasted with the help of Cow ghee in pan. In roasted Ata, roasted seeds are added. In this mixture, the sugar syrup is added and thick solution is spread on plates and cut into square pieces. These pieces are consumed with taste.

For the botany, traditional and medicinal uses of Sewan, please read my previous articles.

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Traditional medicinal knowledge about *Agonoscelis nubile* feeding on *Asgandh* (*Withania somnifera*) in Chhattisgarh, India.

Agonoscelis nubile is a polyphagous pentatomid bug. It is one of the common pest of agricultural crops in Chhattisgarh. In Bilaspur region, it attacks the wild population of *Asgandh* (*Withania somnifera*). *Asgandh* is well known medicinal herb and popularly known as Indian Ginseng. Although *Asgandh* is present in wild in many parts of Chhattisgarh and also it is under cultivation as medicinal crop but the infestation of this pentatomid has been observed in Bilaspur region only. The traditional healers of this region are not only aware of medicinal properties and uses of *Asgandh* but also they use *Agonoscelis* feeding on *Asgandh* as medicine. Through the Ethno-entomological surveys conducted in this part of Chhattisgarh, I have collected many valuable information on this aspect. The traditional healers use full fed Bugs both internally as well as externally in treatment of many common diseases. As traditional secret, most of the traditional healers do not give any detail. Through frequent visits, and by convincing the healers about the importance of on-going document work, I got information on its use for treatment of respiratory troubles and joint pain. Unlike other insect based drugs, used in combination with herbs, the traditional healers use the insect alone as medicine. In treatment of Asthma, the Bugs are used in form of powder. The full fed Bugs are collected and dried in shade. After drying, powder is prepared. This powder is given in combination with Shahad (honey) to the patients. The dose varies from few pinches to teaspoonful powder. According to the healers, by nature, this powder is hot and they decide the dose on the basis of the vitality of

patient. They are aware that by adding medicinal herbs they can reduce the possible harmful effects of overdoses but they do not prefer it. The powder is used as preventive and curative to Asthma. In general, they do not inform the patients that what they are giving as medicine. In treatment of joint pains, the Bugs are used in form of special oil. The freshly collected Bugs are boiled in base oil. When all watery contents evaporate the boiling is stopped and special oil is collected for future use. This special oil is massaged gently on painful parts as medicine. In general, the healers prepared it in bulk during the infestation time and give it to the patients in small quantity for the use. Both use of *Agonoscelis* are very popular among the healers. They have deep faith in these traditional formulations.

These traditional medicinal uses have yet not been reported in reference literatures. Through the present research article, it is coming among the world community for the first time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 300. Kanta Ganjha Ke Sag.

Kanta (Spines) Ganjha is a spiny herb grows in marshy place. Its scientific name is *Lasia spinosa*. In the regions of Chhattisgarh, near to Orissa state border, this herb is known as Kanta Ganjha. The natives of other parts of Chhattisgarh have yet not coined its local name. In these regions it is known as Van Kachra (Waste Plant). The traditional healers and herb collectors are aware of its natural occurrence in Chhattisgarh. They are less aware of its medicinal properties and uses. Kanta Ganjha Ke Sag (Curry) is prepared from young, newly emerged leaves. This Sag is considered beneficial for the patients having liver related troubles. In general, the natives

consider it good for general health. The senior natives informed that its one season use helps the body to get protection from diseases round the year.

Material Required: Kanta Ganjha leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. Kanta Ganjha leaves and all other ingredients are added and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Lasia spinosa*, please read my previous articles.

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Traditional medicinal knowledge about Shield Bug *Plautia fimbriata* Fub. (Hemiptera : Pentatomidae) feeding on Asgandh (*Withania somnifera*) in Chhattisgarh, India.

The Shield Bug *Plautia fimbriata* is a common pest of fodder crops. In many parts of Chhattisgarh, it also attacks on other herbs including Asgandh (*Withania somnifera*). In Chhattisgarh, Asgandh is under cultivation. It also grows in wild. The infestation of Shield Bug is more common in wild population than the cultivated fields. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that many traditional healers use the full fed Bugs as medicine. The traditional healers of Charama region use the Bug powder in treatment of Sukhandi (Marasmus of Children). The adults are collected and

dried in shade. After drying, the powder is prepared and kept for future use. In combination with Gud (Jaggery) this powder is given internally to the affected children in small doses. According to the healers, the long term use of this powder gives promising results. Many healers use it as supplement treatment to main treatment of Marasmus. They believe that the internal use of powder helps in proper assimilation of herbal drugs. This use is very popular among the healers. Its popularity among them clearly indicates its efficacy. During the surveys, I got opportunities to meet with the patients getting relief from this powder. The results were encouraging. The traditional healers of Dhamtari region boil the freshly collected full fed Bugs in base oil and when all watery contents evaporate the boiling is stopped and special oil is collected. As base oil, Til (Sesame seed) oil is used. This special oil is considered as a boon for the patients having the problem of Insomnia. The oil is massaged gently on soles and forehead as treatment. I have tried this oil many times successfully and satisfied with its performance. During the surveys I have observed that many herb vendors sell this special herbal oil to the healers and patients of neighbouring states. The healers are not much aware of its other medicinal uses.

The above mentioned traditional medicinal uses of *Plautia fimbriata* have yet not been reported in reference literatures. This research article is the first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 299. Utigun Ke Sag.

Utigun is a local name of *Laportea terminalis*. It is a well known member of Nettle family Urticaceae. Although the herb collectors and traditional healers of Chhattisgarh claim that it is not very difficult to get this herb from wild but I have seen this herb in wild only at Mainpat region of Chhattisgarh, during the Ethnobotanical surveys. The traditional healers are aware of its medicinal properties and uses. Its all parts are used as folk medicine after purification. Purification is done to remove the stinging hairs found on this herb. These hairs can cause dermatitis. The natives of hilly regions consume the Sag (Curry) for its specific taste. Curry is prepared by using young shoots. The traditional healers consider this Sag good for general health. The traditional healers of Chhattisgarh Plains specialized in treatment of different types of fever suggest the patients to take this Sag as supplement along with main treatment of fevers.

Material Required: Young shoot, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The young shoots are boiled in water. The pan having oil is kept on fire. The softened shoots and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Laportea terminalis*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 298. Pardesi Gandhila Ke Sag.

Pardesi Gandhila is a local name of *Lamium album*. It is a rare herb in Chhattisgarh and grows in hilly regions. According to the natives, this herb is introduced in recent post. This is the reason that the traditional healers are not much aware of its medicinal properties and uses. Pardeshi Gandhila Ke Sag is prepared by using stem tops. As Sag (Curry) it is popular among the poor natives of hilly regions. The traditional healers are aware of its health benefits. The patients having gynaecological problems are suggested by the healers to consume this Sag. It is also considered useful for the patients having the problem of Piles (Bavasir) specially bleeding piles. According to the healers, the regular consumption of Sag checks the bleeding effectively in less time.

Material Required: Pardesi Gandhila Stem Tops, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The stem tops are boiled in water. The pan having oil is kept on fire. Softened stem tops and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Lamium album*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 297. Kavu Van ke Sag.

Kavu Van is local name of *Lactuca runcinata*. It grows as wasteland weed in almost all parts of Chhattisgarh particularly in Southern Chhattisgarh. The Southern Chhattisgarh is having the effect of Telugu language because it is near to Andhra Pradesh. Kavu is a Telugu name of this herb. The natives and traditional healers of Chhattisgarh are aware of its presence but know less about its medicinal properties and uses. Kavu Van Ke Sag is prepared by using the radical

leaves of this glabrous herb. According to the traditional healers, its consumption is very useful for the patients having troubles related to urinary system. In general, the senior natives suggest the patients recovering from exhaustive diseases to never miss the chance of its use. It is considered as promising tonic.

Material Required: Kavu leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Masale (Spices), Tel (Oil), etc.

Method of Preparation: The pan having oil is kept on fire. Kavu leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal use of *Lactuca runcinata*, please read my previous articles.

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Traditional medicinal knowledge about Cow bug *Otinotus oneratus* Walk. (Membracidae : Hemiptera) feeding on Asgandh (*Withania somnifera*) in Chhattisgarh, India.

Asgandh (*Withania somnifera*) is a well known medicinal herb around the world. It is known as Indian Ginseng. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. It grows in wild. Also it is under cultivation as medicinal crop in Chhattisgarh. All parts of Asgandh are used as medicine both internally as well as externally. Asgandh holds a reputed position as medicinal herb in reference literatures related to different

systems of medicine in India. Its roots are employed for consumption, general weakness and rheumatism. The infestation of Cow bug *Otinotus oneratus* on *Asgandh* is common in Chhattisgarh. During the Ethno entomological surveys conducted in different parts of Chhattisgarh in recent past I have observed that many traditional healers collect the Cow bugs from wild population of *Asgandh* and use it as medicinal insect. The traditional healers of Nagri-Sihawa region add the Cow bug powder in popular herbal combinations as main ingredient, used in treatment of different types of fever. It is considered very useful in treatment of Malarial fever. In combination with cow urine the powder is used externally in treatment of Daad (Ring worm). The powder is applied in form of aqueous paste externally on affected parts. The use is continued till complete cure. According to the traditional healers, it is one of the promising treatments of Daad. In many parts of Chhattisgarh, the senior natives use the same combination in treatment of skin diseases common in cattle. The healers have deep faith in these traditional medicinal uses. Its popularity among them clearly indicates its efficacy. The traditional healers are not aware of other uses of this Cow bug.

In reference literatures, the Cow bug feeding on *Asgandh* is not mentioned as medicinal insect. I am feeling fortunate to document the important information on traditional medicinal uses of this insect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Nezara viridula* feeding on medicinal herb *Punir* (*Withania coagulans*) in Chhattisgarh, India.

Punir (*Withania coagulans*), also known as Vegetable rennet or Indian Cheese maker is a small shrub grows as wasteland plant in Chhattisgarh. Its fruits are used in preparing cheese. For the traditional healers of Chhattisgarh Punir is a valuable medicinal herb. Its fruits are used for liver complaints, asthma and biliousness. Many insect species attack this herb in wild. Pentatomid bug *Nezara viridula* is one of these insect species. *Nezara* is polyphagous insect and it is problematic pest for many agricultural crops. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers use the *Nezara viridula* feeding on Punir as medicinal insect. The full fed bugs are collected and after shade drying converted into powder. The traditional healers specialized in treatment of diabetes use the powder alone (at initial stages) and in combination with medicinal herbs (in complicated cases) for treatment. According to the traditional healers they are using *Nezara* bug since time immemorial. In early days the problem of diabetes was not common. Now the patients are increasing and this is the reason the healers are using the powder more frequently. I have mentioned in previous articles that in many parts of Chhattisgarh the flowers of Punir are used in treatment of diabetes. The flowers are dipped in water whole night and next morning leachate is taken internally as treatment. The traditional healers consider the insect powder more promising than the Punir flower leachate. In general, the traditional healers do not disclose the secret of use of insect powder. The healers aware of an importance of on-going documentation work informed me about this addition. During the surveys, I got the opportunities to interact with the patients getting benefits from this powder. Their encouraging response clearly indicated that there is a strong need of systematic research on this aspect without any delay. The traditional healers are not aware of other uses of this insect.

The above mentioned traditional medicinal use of *Nezara viridula* feeding on Punir has yet not been reported in reference literatures. Through the present research article, this information is coming among the world community, for the first time.

Thank you very much for reading the article.

Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 163. Duldul Ke Shurbut.

Duldul is a local name of *Lepisanthes tetraphylla*. It is a shrub or moderate sized tree, found in almost all parts of Chhattisgarh. It is also planted as avenue tree. Its wood is used for house building. Duldul is less known as medicinal herb among the traditional healers. Duldul Ke Shurbut is prepared from its fruits. The traditional healers prepare it for specific purpose. The fruiting occurs in nature from January to May. According to the traditional healers the Mother Nature have set the fruiting time between January to May because the Shurbut from fruits is able to treat all the seasonal troubles common in these months. In general, the natives are suggested by the healers to take this Shurbut as preventive measure to different diseases. The natives are advised to gargle with this Shurbut at first and then swallow it. According to the healers, this gargle is beneficial for throat. To prepare the Shurbut, the juice is extracted from Duldul fruits and added is sugar syrup. The combination is filled in bottle and kept for future use.

For the botany, traditional and reported medicinal uses of *Lepisanthes tetraphylla*, please read my previous articles.

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Traditional medicinal knowledge about Ground beetle *Ophionea nigrofasciata* feeding on Rice Green Leaf Hopper, in Chhattisgarh, India.

Chhattisgarh is well known for its rice varieties and production. It is known as 'Rice bowl of India'. Rice is a staple food in this region. Beside using it as food, for the traditional healers of Chhattisgarh Rice is a valuable medicinal herb and even the insect-pest attacking on specific rice varieties particularly the medicinal rice varieties are used as folk medicine. In previous articles I have written a lot on different aspects of traditional medicinal knowledge about Rice and Green Leaf Hopper. During the Ethno-entomological surveys conducted in Chhattisgarh

Plains, in recent past, I have observed that many healers use Ground beetles *Ophionea nigrofasciata* collected from rice fields as medicine. In general, the Ground beetle is known as potential natural enemies of Leaf Folder larvae and Green Leaf Hopper. The full fed beetles are collected and after drying converted into powder. This powder is used both internally as well as externally in treatment of many common diseases. Its use in treatment of swellings is very popular among the healers. In treatment of swelling it is used externally in form of aqueous paste. This paste is having the capacity to absorb the extra heat from affected part and help in reducing it effectively in very less time. The traditional healers also use the insect powder internally with popular herbal formulations but as traditional secret, they do not want to give the details. The initial information about its potential use as medicinal insect is enough for me. Many healers claimed that the powder is added in popular herbal combinations, as main ingredient, used in treatment of different types of cancerous wounds, but I am not sure about it. The traditional healers using this insect as medicinal insect take special measures during its collection. The rice fields heavily infested with Green Leaf Hopper are selected for the collection with assumption that the beetle has fed on hoppers instead of other insects. The healers claimed that by seeing its efficacy as medicine, they get confirmation whether they have collected the potential beetle or not, but they have no other checking method before this stage. The rice fields where rice is under cultivation as organic crop are selected for the collection of beetles. As the area under chemical farming is increasing, it is becoming difficult for the healers to get the potential beetle. The senior healers informed that in early days when medicinal rice varieties were under cultivation, the beetles were in use in treatment of many complicated troubles. Unfortunately, these varieties are not under cultivation now.

The above mentioned traditional medicinal uses of Ground beetle have yet not been reported in reference literatures. This research article is the first written document on this important aspect.

Thank you very much for reading the article.

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The village names based on herbs and animals, in Southern Chhattisgarh, India. : The promising Biodiversity Indicators.

Yesterday I received the long awaited letter from Shri B. Rao Godbole is well known traditional healers of Bhopalpatnam region, of Chhattisgarh, with the detailed information regarding the village names based on herbs and animals in Southern Chhattisgarh regions viz. Bhopalpatnam, Jagdalpur, Konta and Bijapur. I have mentioned in previous article based on village names in Raipur region that the villages named on specific herb or animal clearly indicates that in early days these villages were rich in population of these specific herbs. This information is very vital to identify different zones suitable for promotion of specific herbs. As in these villages, the Mother Nature has arranged the specific herbs, it reflects that the climatic and edaphic factors are suitable for ideal farming of these particular herbs. I am specially interested in these studies. Through the traditional healers and natives of different parts of Chhattisgarh I am preparing the list of 16,000 villages. We are also trying to promote the cultivation or plantation of specific herbs again in specific villages. We have observed that the percentage of survival is cent-percent in specific villages. I personally feel that this innovative approach can save our cost of research and effort, we invest for screening our herbs in different agro-climatic regions through long field trials. The traditional healers of Chhattisgarh are convinced with this approach and it is a great support for me. For village names please take a look at Table you will find very interesting information. Shri Godbole is still engaged in preparation of long list. We are confident that through the names of villages situated in dense forests, far from civilization, we will be able to search many unknown and rare herbs.

Thank you very much for reading the article.

Related Links :-

Village names based on common herbs : A promising indicator of
Bio-diversity and Indigenous Knowledge zone

http://botanical.com/site/column_poudhia/109_villagenames.html

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Traditional medicinal knowledge about *Aleuromarginatus* sp. feeding on Ban-Nimbu (*Glycosmis pentaphylla*) in Chhattisgarh, India.

Ban-Nimbu (*Glycosmis pentaphylla*) belongs to Lemon family i.e. Rutaceae. It is a common shrub in Chhattisgarh. It is planted and cultivated for its fruits. Ban-Nimbu is well known among the traditional healers for its leaves. Its leaves are used as indigenous medicine for fever, liver complaints and as vermifuge. Many species of White fly infest on Ban-Nimbu in Chhattisgarh. In previous articles I have mentioned the use of *Aleurolobus* sp. feeding on this herb. Like the infestation of *Aleurolobus*, the infestation of *Aleuromarginatus* is also common in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Chhattisgarh Plains use the full fed nymphs of *Aleuromarginatus* as folk medicine. The full fed nymphs are collected and after drying, converted into powder. This powder is used both internally as well as externally. Most of the healers consider it as promising blood purifier. In normal cases of skin troubles it is given in combination with medicinal herbs. The healers tried to explain that the powder is having the capacity to absorb extra heat from the body and to flush out the toxic materials through excreta. The traditional healers of Bagbahera region, consider the insect powder very useful in treatment of Safed Dag (Leucoderma). In combination with Cow urine and Bemchi (*Psoralea corylifolia*) seeds, it is applied externally in form of aqueous paste. Its application is very popular among these healers. The combination of Bemchi and cow urine is common in other parts of Chhattisgarh but according to the traditional healers of Bagbahera region, the addition of insect powder increases its efficacy. The traditional healers are not aware of its other traditional medicinal uses. As Ban-Nimbu and *Aleuromarginatus* are common in many parts of Chhattisgarh, I am confident that through in depth and detailed surveys, I can collect more information on this aspect. Through the on-going Ethno-entomological surveys I am trying my best to do so.

The above mentioned traditional medicinal uses of *Aleuromarginatus* sp. feeding on *Glycosmis* have yet not been reported in reference literatures. The present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different shurbuts in Chhattisgarh, India. 162. Morali Ke Shurbut.

Morali is a common name of *Lycium europaeum*. Although this herb grows in wild in many parts of Chhattisgarh but the natives and traditional healers are not much aware of its medicinal properties and uses. For the first time I got information regarding this herb from the herb vendors coming from neighbouring states particularly from Rajasthan. Morali is possibly its local name in Rajasthan. The herb vendors informed that the berries of this herb are used to prepare the Shurbut. This Shurbut is having the capacity to treat all the injuries effectively in very less time. The persons having injuries are suggested by the herb vendors to consume this Shurbut along with main treatment. Later when I informed the traditional healers of Chhattisgarh about this Shurbut, they tried and found it very promising. To prepare the Shurbut, the berries are cut into small pieces and boiled in water. The decoction is added with sugar syrup and the solution is filled in the bottles. Diluted with water it is used round the year.

For the botany, traditional and reported medicinal uses of *Lycium europaeum*, please read my previous articles.

Herbal dishes of Chhattisgarh, India. 296. Pardesi Phal Ke Murabba.

In the name of Pardesi Phal (Exotic fruit) many fruit bearing herbs are popular in Chhattisgarh. The traditional healers of Amarkantak region have named the fruits of *Lonicera angustifolia* as Pardesi Phal. In reference literatures on flora its natural occurrence in Chhattisgarh is not mentioned. I have yet not seen this herb in other parts of Chhattisgarh. Also the traditional healers of other parts of Chhattisgarh are not aware of this Pardesi Phal. Pardesi Phal Ke Murabba is prepared by using its fruits. This preparation is not popular among the common natives. The traditional healers use it as medicine. It is commonly recommended in treatment of urinary system related troubles. Many healers consider it useful in treatment respiratory troubles. In general, the traditional healers prepare this Murabba in bulk in their homes and give it to the patients reaching to them, in small doses.

Material Required: Pardesi Phal fruits and Sugar.

Method of Preparation: The fruits are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Sugar syrup). The fruits are added in Chashni and solution is filled in glass jars (Burney). The jars are kept under moonlight upto a week. After this duration the Murabba is considered ready for use.

For the botany, traditional and reported medicinal uses of *Lonicera angustifolia*, please read my previous articles.

Herbal dishes of Chhattisgarh, India. 295. Khursin Van Ke Sag.

Khursin is a local name of *Lippia alba*. It is an aromatic herb that grows in moist areas. This herb is present in almost all parts of Chhattisgarh particularly in Chhattisgarh Plains. The natives and traditional healers are aware of its presence in wild. The whole plant is used as folk medicine. Khursin Van Ke Sag is prepared by using its leaves. This Sag (Curry) is popular among the natives of poor community. The senior natives of this community are aware of its medicinal properties and uses. It is considered as promising medicine in treatment of stomach related disorders. The patients having the problem of Mirgi (Epilepsy) are suggested by the healers to never miss the chance of its consumption as treatment. It is also considered good for general health.

Material Required: Khursin leaves, Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices), Lason (Garlic) etc.

Method of Preparation: The pan having oil is kept on fire. Khursin leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Lippia alba*, please read my previous articles.

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Traditional medicinal knowledge about *Liriomyza trifolii* Burgess (Diptera : Agromyzidae) feeding on Bakla (*Phaseolus vulgaris*) in Chhattisgarh, India.

Bakla is well known vegetable crop in India. Its tender pods and dry ripe seeds are used as vegetable. In Chhattisgarh it is under cultivation particularly in Chhattisgarh Plains. It is also planted in home gardens for same purpose. The leaf miner *Liriomyza trifolii* is a common pest of Bakla. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that many traditional healers of Chhattisgarh Plains are using the full fed larva as medicine. The healers are adopting special precaution during the collection of larva. The collection from commercial fields is avoided. The Bakla herbs grown organically are preferred for the collection of larva. The larva are used in form of powder. In general, the healers collect the larva in bulk and store it for long term use. During storage it is protected from moisture. The traditional healers add the larva powder in popular herbal combinations used in treatment of constipation. According to the traditional healers, the larva powder plays an important role in these herbal combinations. Alone larva powder is not used for this purpose. The traditional healers also use larva powder externally. In combination with Kanhar (Black cotton soil), the healers prepare an aqueous paste. This paste is used for face care. According to the healers, its regular application twice a day helps in removing black spots. This use is very popular among them. The traditional healers are not aware of its other traditional medicinal uses. During the surveys, I have observed that very few healers are present with us, using this insect as medicine in their routine practice. This observation motivated me to document the important information regarding traditional medicinal uses of this insect without any delay.

In reference literatures, *Liriomyza trifolii* feeding on Bakla is not reported as medicinal insect. As Bakla is under cultivation in many parts of the world, I am confident that the information regarding this insect will be of great use for the researchers around the world.

Thank you very much for reading the article.

Traditional medicinal knowledge about *Melanitis leda ismene* (Cramer) caterpillars feeding on Guinea Grass (*Panicum maximum*) in Chhattisgarh, India.

According to the reference literatures, *Melanitis leda ismene*, also known as Horned caterpillar of Rice is a common pest of rice. The adult is a dark-brown butterfly which lays round white eggs on rice leaves. The caterpillar, locally known as Illi is green with a roughened skin, head bearing a pair of red horn like processes and anal end produced into two slender processes. This caterpillar use *Panicum maximum* as an alternate host. *Panicum* grows as grassy weed in many parts of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Chhattisgarh Plains use the full fed caterpillars as medicine. The caterpillars are collected during dusk and after shade drying, converted into powder. Once prepared in bulk, it is used upto long time. The traditional healers of different regions prepare it for different purposes. The traditional healers of Raipur region suggest the patients having the problem of excessive sweating on extremities to apply the insect powder in form of aqueous paste on affected parts. According to them, the regular use of aqueous paste in this manner cures the trouble effectively in very less time. You will be surprised to know that the *Panicum* herb is not used for this purpose. The traditional healers of Gandai-Salewara region use the caterpillar powder externally as styptic to check the flow of blood from injured parts. The traditional healers of Keshkal region add the caterpillar powder in popular herbal combinations used to stop all types of internal bleeding. The traditional healers of Rajnandgaon region use the caterpillar powder in treatment of Piles externally but as other promising alternatives are available it is used less commonly for this purpose. The traditional healers are not aware of its other medicinal uses. As Rice, *Panicum* and *Melanitis* all are common in other parts of Chhattisgarh, I am confident that through the on-going ethnobotanical surveys I will be able to get more information on this important aspect.

The above mentioned traditional medicinal uses of *Melanitis* feeding on *Panicum maximum* have yet not been reported in reference literatures. This research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Cotton White Fly *Bemisia tabaci* feeding on Harpharevadi (*Cicca acida*) in Chhattisgarh, India.

According to the reference literatures, Cotton White fly *Bemisia tabaci* is polyphagous insect. It causes the damage to agricultural crops and herbs to the great extent. The stalked eggs are laid singly on the under surface of the leaves. Total life cycle takes from 14 to 107 days. The adult is a small insect with yellow body and hyaline wings dusted with waxy powder. I have mentioned in previous articles that the *Bemisia tabaci* nymphs and adults feeding on different medicinal herbs are used as folk medicine in treatment of different diseases. The miraculous effects of insect feeding on hosts, as medicine can not be obtained through either the herb or insect itself. Harpharevadi is well known tree popular for its fruits. It is also considered as promising medicinal tree. Its all parts are used as medicine. The infestation of Cotton White Fly is common in different Harpharevadi rich regions of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past I have observed that the traditional healers of Chhattisgarh Plains and Southern parts use the nymphs and adults feeding on Harpharevadi as folk medicine. The traditional healers of Chhattisgarh Plains mix the full fed nymphs and adults in equal proportion and after drying it in shade, convert into powder. This insect powder is taken internally with Cow ghee in smaller doses in treatment of liver related troubles. I have seen the bottles filled with this insect powder with the traditional healers of Chhattisgarh specialised in treatment of Jaundice. In combination with Kukronda (*Blumea lacera*) leaf juice, the traditional healers of Gandai-Salewara region use the insect powder in treatment of bleeding piles. The combination is applied externally on affected portion in form of aqueous paste. According to the traditional healers it is one of the promising treatments and its application helps in reducing the bleeding effectively in very less time. The traditional healers of Charama region burn the insect powder and suggest the patients having respiratory troubles to inhale the fumes. Although it is not much effective but among the healers this use is still very popular. Earlier, the traditional healers using the insect powder in treatment of liver related troubles were not aware of its use in treatment of piles in other regions and vice-versa when I informed the traditional healers about different uses, they tried and found it really useful. Through the on-going Ethno-entomological surveys I am trying my best to gather more information on this important aspect.

The above mentioned traditional medicinal uses of Cotton White Fly *Bemisia tabaci* have yet not been reported in reference literatures. I am feeling proud to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Tamarind white fly *Aleuroplatus alocki* feeding on Amli (*Tamarindus indicus*) in Chhattisgarh, India.

According to the reference literatures, Amli is a tree indigenous to tropical Africa but now found throughout India. It is also grown as avenue tree. Its fruit pulp is used for souring curries, sauces, Chutneys and certain beverages. Unripe fruits are rich source of tartaric acid and by products like ethanol, lactic acid and citric acid. Tartaric acid and its salts are extensively used in various foods, chemical and pharmaceutical industries. In Chhattisgarh. The dense forests are rich in natural popular of Amli. Its all parts are used as medicine. Every year the state authorities generate a huge income from different plant parts of Amli. The natives and traditional healers have in depth traditional medicinal knowledge about Amli. The infestation of Tamarind white fly is common in Amli rich regions of Chhattisgarh, I have observed that the traditional healers of different parts of Chhattisgarh use the full fed nymphs and adults, as medicine for different purpose. In general, the insect powder is used both internally as well as externally in treatment of skin related troubles. In normal cases of Daad (Ringworm), the insect powder is applied on affected parts in form of aqueous paste whereas in complicated cases the insect powder is used with cow urine in same manner. In combination with medicinal herbs the insect powder is also taken internally as medicine. It is considered as blood purifier. According to the traditional healers, the insect powder plays an important role in herbal combinations. It also reduces and eliminates extra body heat, the healers informed. The traditional healers of Chhattisgarh plains boil the freshly collected full fed nymphs in Til (Sesame seed) oil and when

all watery contents evaporate the boiling is stopped and special oil is stored for future use. This special oil is used externally in treatment of ear related troubles. I have observed during the surveys that many herb vendors sell this special oil to the interested natives and healers without disclosing its contents. The traditional healers are not much aware of other medicinal uses of Tamarind white fly.

In reference literatures, Tamarind white fly is not mentioned as medicinal insect. The present research articles is the first written document on this important aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India 294. Gulkhaira Phool Ke Sag.

Gulkhaira is a local name of *Malva sylvestris*. It is an erect biennial or perennial herb, found in almost all parts of India. Its all plant parts are rich in mucilage. The plant possess demulcent, cooling, antiseptic and emollient properties. Gulkhaira is a popular ornamental as well as medicinal herb in Chhattisgarh. The traditional healers of Chhattisgarh use its different plant parts as medicine in treatment of many common as well as complicated diseases both internally and externally. Gulkhaira Phool Ke Sag (Curry) is prepared by using its flower. It is in use since generations as home remedy for whooping cough. It is also useful in treatment of other troubles related to respiratory system. The traditional healers have confirmed its efficacy as home remedy for whooping cough, locally known as Kukkur Khansi.

Material Required: Gulkhaira flowers, cow ghee, Namak (Salt) and Hardi (Turmeric)

Method of Preparation: The oil is taken in pan and pan is kept on fire. Gulkhaira flowers , Hardi and Namak are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice)

For the botany, traditional and reported medicinal uses of Gulkhaira, please read my previous articles.

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Tradtional medicinal knowledge about Aleuroclava sp. feeding on Peng (Celastrus paniculatus) in Chhattisgarh, India.

According to the reference literatures, Peng (*Celastrus paniculatus*) is a large climbing shrub distributed throughout the greater part of the country. Its seeds yield oil which is used in beri-beri. Seeds are laxative, stimulant, aphrodisiac and used in leprosy, gout and rheumatism. Peng is well known herb in Chhattisgarh. It is one of the important non-wood forest produces having heavy demand in national and international markets. The dense forests of Chhattisgarh are rich in natural population of Peng. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Many insect species attack its wild population. *Aleuroclava* sp. is one of these insect species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the traditional healers of many parts of Chhattisgarh use the full fed nymph in dry powder form in treatment of scorpion-sting. The powder is applied externally on affected portion . It is used as first aid measure. In general, the traditional healers of Chhattisgarh use the insect powder internally to nullify the harmful effects of poison. In case of poisoning, after systematic treatment the insect powder is given internally with cow ghee upto long time in order to nullify the residual effects of poison. Many healers informed that cow ghee acts as carrier but the traditional healers of Narharpur region informed that the promising effect is due to the combination of cow ghee and insect powder. The traditional healers of Gandai - Salewara region use the insect powder internally in treatment of snake poison. The powder is given for the same purpose but they use Shahad (Honey) in place of cow ghee. I have observed the bottles filled with this insect powder

with the traditional healers of this region , specialized in treatment of snake - bite. The powder is also used in combination with medicinal herbs specially in complicated cases. Once prepared in bulk, according to the healers, the insect powder can be kept upto five years. The powder from nymph is preferred than from the adults. Many herb vendors aware of its medicinal properties and uses, sell this powder to the traditional healers of neighboring states. The traditional healers of Chhattisgarh are not aware of its other uses.

These traditional medicinal uses have yet not been reported in reference literatures. This research article is the first written document of this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Aleuroclava maytenii* feeding on Bade Peng (*Celastrus maytenus*) in Chhattisgarh, India.

Botanically Bade Peng is a small tree. Like Peng (*Celastrus maytenus*), Bade Peng is also a common tree that grows in wild. It is also planted as ornamental herb in public gardens. The natives and traditional healers have rich traditional medicinal knowledge about Bade Peng. Since generations it is in use as folk medicine. In natural forests the attack of *Aleuroclava maytenii* is common throughout Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers specialized in treatment of different types of cancer commonly use the full fed nymphs as medicine. The full fed nymphs are collected and dried in shade. After drying in powder form it is used as medicine. Many healers use this powder after purification. For purification the powder is dipped in the bark decoction of Karra (*Cleistanthus collinus*) for two-three hours. After this duration the decoction is boiled and powder is collected. This purified powder is used externally. It is applied on cancerous wounds. According to the traditional healers, the application of purified powder not only kills the germs but also accelerate the rate of healing. It is used along with internal treatment. Many healers use the insect powder in combination with medicinal herbs

but majority of the healers confirmed that alone purified powder is capable of treating the wounds. As secret knowledge most of the healers do not disclose the use of insect powder and the process of purification. During the infestation time, the traditional healers can be seen at forest collecting the nymphs. The traditional healers living in parts where Bade Peng not grows naturally, depend on the herb vendors for the supply of powder. Unfortunately, they are not aware of testing method to test whether the powder is genuine or not. It is a faith that the healers are dependent on the herb vendors and using it in treatment of cancerous wounds successfully. The traditional healers are not much aware of its other traditional medicinal uses.

In reference literatures, *Aleuroclava maytenii* feeding on *Celastrus maytenus* had not been reported as medicinal insect. As the cancer is common problem and research studies are in progress in different parts of the world to find out its complete cure, I feel that in this context, the traditional knowledge about *Aleuroclava maytenii* will be of great importance for the researchers around the world.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 161. Sadul Kou Ke Shurbut.

Sadul Kou is Hindi name of *Melodinus monogynus*. According to the reference literatures, it is a large shrub, native to India. It is grown in gardens for its white fragrant flowers. Although this shrub is present in abundance in many parts of Chhattisgarh but the natives and traditional healers have yet not coined its local name. The traditional healers of Gandai-Salewara region prepare and recommend the Shurbut of Sadul Kou. It is prepared by using its matured fruits. The traditional healers consider it as good heart tonic. Along with main treatment they use this Shurbut as supplement, in case of heart troubles. This Shurbut is not popular among the

common natives. Also the traditional healers of other parts of Chhattisgarh are also not aware of this preparation. During the Ethnobotanical surveys I got opportunity to meet with the patients getting benefits from this Shurbut. Their encouraging response motivated me to document the valuable knowledge about this preparation without any delay. To prepare the Shurbut, the juice is extracted from fruits. The juice is mixed with Sugar syrup and combination is kept in the bottle for future use. Diluted with water, it is used round the year as per the recommendations of the healers.

For the botany, traditional and reported medicinal uses of *Melodinus monogynus* please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 293. Unjhi Nar Ke Sag.

Unjhi Nar is a local name of *Medinilla hasseltii*. Although this woody vine is present in many parts of Chhattisgarh but the natives have yet not coined its local name in these parts. The tribes of Southern Chhattisgarh recognize this vine as Unjhi Nar. The natives and traditional healers are not much aware of its medicinal properties and uses. Unjhi Nar Ke Sag (Curry) is popular among the natives of forest region living in Keshkal Valley. It is prepared by using its leaves. The natives consume its leaves and fruits. Its curry is consumed for its specific taste. The traditional healers are aware of its health benefits. According to them, the long term use of Unjhi Nar Ke Sag helps in flushing out the intestinal worms. Many healers recommend this Sag to the patients having skin related troubles. It is considered as blood purifier. In other parts of Chhattisgarh it is not a popular preparation.

Material Required: Unjhi Nar leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Unjhi Nar leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Medinilla hasseltii*, please read my previous articles.

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Traditional medicinal knowledge about Eriophyid mite *Eriophyes ficus* feeding on Doomar (*Ficus glomerata*) in Chhattisgarh, India.

Doomar (*Ficus glomerata*) is well known tree of medicinal and religious importance in Chhattisgarh. It is a deciduous tree grown along roadsides and in villages. The leaves are frequently used as fodder and fruits are edible. The bark is used as tan. It is a host for the summer brood of lac insect. In rainy season, Eriophyid mite *Eriophyes ficus* attacks on this medicinal tree. I have seen its heavy infestation in Chhattisgarh Plains. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past I have observed that the traditional healers specialized in treatment of liver related troubles commonly use the full fed mite as medicine. The full fed mite is used in powder form. It is used internally in combination with medicinal herbs. According to the traditional healers, without this mite, the formulations are incomplete. Many healers use the mites alone in combination with Shahad (Honey). Shahad is used as carrier. Many healers give the mites with Doomar leaves. According

to them, the Doomar leaves have capacity to nullify the harmful effects of mites and vice versa. With other medicinal herbs mites are mixed in 1:10 ratio but with when it is used with Doomar leaves, both are mixed in equal proportions. I have mentioned in previous articles that as traditional medicine Bhuiaonla (*Phyllanthus niruri*) is used in treatment of Jaundice popularly. The traditional healers of Northern Chhattisgarh aware of use of both Bhuiaonla and mite, are not in favour of its combination. They informed that the presence of mites and Bhuiaonla in any combination results in harmful effects in majority of the cases. Although the healers are unable to give the scientific explanation but I feel that it is necessary to search the science behind these effects. The traditional healers are using the Eriophytes as medicine since generations. Its popularity among them clearly indicates its efficacy. The traditional healers are not aware of its other traditional medicinal uses.

I have mentioned in previous articles that the natives and traditional healers have rich traditional medicinal knowledge about Doomar and insects attacking on it. The insects attacking its fruits are popular folk medicine. The information regarding Eriophytes feeding on Doomar is new information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Eriophyid mite *Tetra sissoo* feeding on Sisham (*Dalbergia sissoo*) in Chhattisgarh, India.

According to the reference literatures, Sisham is a common tree often planted along roadsides. Both Sissoo and Rose wood rank amongst the finest of India's cabinet and furniture woods. Sisham is also used for bent-wood articles, skis, calico printing blocks, musical instruments, boat building and tool handles. Shisham is considered to be most suitable for making charcoal. The wood pulp is reported to be suitable for writing and printing paper. Sisham is well known tree of medicinal and industrial importance in Chhattisgarh. The traditional healers are aware of its less but important traditional medicinal uses of Sisham. The attack of Eriophyid mites are common in Chhattisgarh particularly in Chhattisgarh Plains. During the Ethno entomological

surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers use the full fed mites as medicine. The full fed mites are used in powder form. Before preparing the powder the mites are dipped in herbal solutions for purification. As secret knowledge the traditional healers refused to inform about the contents of herbal solution. Many healers aware of my on-going documentation work informed me that all bitter herbs present in surrounding are used for this purpose. According to them the mites possess some toxic material inside the body. After purification it can be used in varied doses without any problem. After dipping the mites in solution upto three hours, the healers dry it in shade and convert it into powder. This powder is stored for future use. For long term storage the powder is kept with Bach (*Acorus calamus*) rhizomes. The healers informed that many insects are fond of eating this powder. The presence of Bach acts as repellent. The traditional healers use the mite powder as general tonic. It is given internally alone, in majority of cases. Many healers add the mite powder in popular herbal combinations used as body tonic, as main ingredient. In general, the mite powder is added in small amount as over dose may result in stomach upset. The traditional healers do not inform the patients about what they are adding in formulations. This is reason that very few natives of Chhattisgarh are aware about the use of medicinal insects by the traditional healers.

The uses of Tetra sissoo feeding on Sisham as medicinal insect have not been reported in reference literatures. The present research article is the first written document on this aspect. As Shisham is present in many parts of the world, I am expecting the information about this medicinal insect will be great help for the researchers around the world.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 160.
Amarphal Ke Shurbut.**

Amarphal is a local name of *Monstera deliciosa*. It is a common ornamental woody climber planted in public gardens. It is a native to Central America and introduced in Chhattisgarh in recent past. This is the reason that the traditional healers are not much aware of its medicinal properties and uses. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Chhattisgarh Plains use its delicious fruits to prepare the Shurbut. The patients having the problem of Mirgi (Epilepsy) are advised by the healers to use this Shurbut upto long time. It is also recommended as supplement treatment with main treatment of Adhasisi (Migraine). The common natives are not aware of this preparation and its health benefits. To prepare the Shurbut, the juice is extracted from matured fruits. In this juice, the hot sugar syrup is added and the combination is stored in bottles. In general, the traditional healers prepare this Shurbut in bulk at their homes and give it to the patients in small doses. For the botany, traditional and reported medicinal uses of *Monstera* please read my previous articles.

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Traditional medicinal knowledge about Pepper White Fly *Aleurocanthus piperis* feeding on Kali Mirch (*Piper nigrum*) in Chhattisgarh, India.

According to the reference literatures, Kali Mirch is a native to Indo-Malaysian region. It is under cultivation in many parts of India. It is under cultivation for its fruits which are used as spice and condiment. It is also used in medicines as stimulant, carminative and stomachic. Since generations, the natives are using Kali Mirch as home remedy, beside spice and condiment. The traditional healers of the state have in depth traditional medicinal knowledge about this herb. Pepper White fly is a common pest of Kali Mirch in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Southern Chhattisgarh use the nymphs and adults of Pepper White Fly as medicine. The full fed nymphs and adults are used in combination with medicinal herbs. According to the traditional healers the full fed nymphs used in powder form, are a boon for the patients suffering from intermittent fever. Popularly, the combination of Kalmegh (*Andrographis paniculata*) leaf powder and insect powder is given internally many times a day as medicine. In complicated case, the combination is given in form of decoction. The insect powder and leaf powder are mixed in 1:10 ratio. The traditional healers explained that the dose of insect powder may vary from patient to patient. In many cases the smaller dose gives good results and vice-versa. The traditional healers of Keshkal region use the insect powder externally in treatment of

skin related troubles but as other promising alternatives are available it is used less commonly. From documentation point of view it is an important information. In general, the traditional healers do not disclose the information regarding the addition of insect powder in any combination. The healers aware of on-going documentation work shared this secret knowledge with me. The traditional healers of other parts of Chhattisgarh are not aware of these uses.

In reference literatures, Pepper White fly is not mentioned as medicinal insect. The important information regarding its traditional medicinal uses is coming for the first time among the world community through the present research article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Banana White Fly *Aleurodicus disperses* feeding on Kela (*Musa paradisiaca*) in Chhattisgarh, India.

According to the reference literatures, Kela is a native to India and Malaysia. Now it is under cultivation in almost all parts of India. Its fruit are edible. The green fruits are beneficial for digestive system related troubles. The ripe fruit is useful in diabetes, uremia, nephritis, gout, hypertension and cardiac diseases. The juice of flowers, stems and root is used for blood disorder. Kela stem is good source of starch. Kela is well known herb in Chhattisgarh. Its fruits are of religious and medicinal importance. The natives use Kela plant parts as home remedy whereas the healers use it as traditional medicine alone and in combination with other herbs. The infestation of Banana White fly is common in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Jashpur region use the nymphs and adults of Banana White Fly as

medicine. The nymphs and adults are used in powder form. The use of full fed nymphs are preferred. The full fed nymphs are collected and dried in shade. After drying it is converted into powder and stored for future use. The traditional healers informed that the powder can be kept upto long time under proper storage conditions. It is protected from moisture. Many healers keep the powder in earthen pots. As the infestation of White fly is common, in general, the healers prepare the fresh powder every year. The organically grown Kela is preferred for the collection of nymphs. The Kela herb growing near the Neem trees are not preferred for the collection of insects. The nymph powder is used externally as medicine. It is considered useful in treatment of scabies. In combination with cow urine, it is applied externally for this purpose. The traditional healers of Raipur region use the powder internally in combination with medicinal herbs. According to them, its internal use upto long time flushes out the toxins from body and helps in getting good health. I have yet not observed its practical uses. The traditional healers of Chhattisgarh are not much aware of other uses of Banana White fly. During interaction, they informed that they have gained this knowledge from ancestors. Its popularity among them clearly indicates its efficacy.

These traditional medicinal uses of Banana White Fly have yet not been reported in reference literatures. The present research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Many wild species of Kevatch (*Mucuna* species), locally known as Van or Ban Kevatch, are present in Chhattisgarh. In Pendra region of Chhattisgarh in the name of Ban Kevatch *Mucuna nivea* is available. In other parts of Chhattisgarh, it is rare in occurrence. In reference literatures, it is named as Kumach or Tohar Sem. The natives and traditional healers of the state are not aware of these names. The traditional healers consider *Mucuna nivea* as promising alternative to *M. pruriens* and in many properties, it is considered more useful. Among the natives Ban Kevatch is known for its delicious Sag (Curry) prepared by using its pod. I have mentioned in previous articles that the natives consume the pods of almost all *Mucuna* species as Sag. According to the natives, every species possess different taste. It is also prepared by adopting different methods. In limited amount, this Sag is considered as promising tonic. At larger doses its consumption results in upset of stomach. The patients having the problem of constipation are advised by the healers to never miss the chance of its consumption during growing period.

Material Required: Ban Kevatch pods, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: Ban Kevatch pods are boiled in water. The oil is taken in pan and kept on fire. Ban Kevatch pods and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Ban Kevatch, please read my previous articles.

Herbal dishes of Chhattisgarh, India. 291. Suhagi Van Ke Sag.

Suhagi Van is a local name of *Myriactis wallichii*. This herb is present in almost all parts of Chhattisgarh. The natives living in rural areas of Chhattisgarh Plains use its leaves in treatment of veterinary diseases. The traditional healers of Chhattisgarh Plains are aware of its many medicinal properties and uses. They add its different plant parts in popular herbal combinations. Suhagi Van Ke Sag is prepared by using its leaves and young shoots. The natives consume it for its specific taste. Many senior natives are aware of its health benefits. According to them, in early days this Sag was in use in treatment of digestive system related troubles. The traditional healers have confirmed this information. They added that this Sag can be given to patients recovering from digestive system related troubles as safe food.

Material Required: Suhagi Van leaves and young shoots, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Suhagi Van leaves and young shoots are added in pan with all other ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Myriactis wallichii* please read my previous articles.

Traditional medicinal knowledge about Atalantia White Fly *Aleuroplatus alcocki* in Chhattisgarh, India.

According to the reference literatures, *Atalantia* (*Atlantia monophylla*) is an ornamental spinous, large, shrub or small tree. It is native to S.E. Asia. The fruit yields on oil, which is used in chronic rheumatism and paralysis. In Chhattisgarh, it is planted in home and public gardens. From where it has escaped to the wild. The traditional healers are less aware of its medicinal properties and uses. The infestation of *Atalantia* White fly is common in Chhattisgarh. I have observed its heavy infestation in Chhattisgarh Plains. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the traditional healers use the full fed nymphs as medicine. In form of decoction, the full fed nymphs are used in treatment of skin related troubles. The full fed nymphs are boiled in water and when half quantity (of initial quantity) of water remains the boiling is stopped. In general, the healers mix nymphs and water in 1:5 ratio. The decoction is applied externally on affected parts. The healers informed that they use the decoction for the troubles common in rainy season. For off-season use, they use the nymph powder. The powder is used in form of aqueous paste. The paste is applied in same way like decoction. Both the decoction and paste are considered very useful in treatment of Daad (Ring worm). In many parts of Chhattisgarh it is used as veterinary medicine also. The healers are not aware of its internal uses. During the survey I have noted that the traditional healers of present generation are not much aware of these uses. They are using herbal alternatives in treatment of skin related troubles. This observation encouraged me to document the information on this medicinal insect without any delay.

This traditional medicinal use has yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 159. Kamini Ke Shurbut.

Kamini is a local name of *Murraya paniculata* (Syn. *M. exotica*; *Chalcas paniculata*). It is a native to India and cultivated as hedge plant. Kamini is a well known medicinal herb in Chhattisgarh. In many parts of Chhattisgarh, it is present in wild also. According to the experts, its presence in wild is a result of escape from cultivated fields. The traditional healers use all parts of Kamini as medicine. Kamini Ke Shurbut is prepared by using its fruits. The natives prefer its raw fruits. The Shurbut is prepared for its off-season use. The traditional healers of Chhattisgarh are aware of its health benefits. It is considered as promising tonic for sexual health. The newly wed couples are suggested by the healers to consume this Shurbut. This Shurbut is beneficial for both male and female partners. To prepare the Shurbut, the juice is extracted from matured fruit. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and syrup are mixed and filled in bottles. Diluted with water it is used round the year as per the recommendations of the healers.

For the botany, traditional and reported medicinal uses of Kamini, please read my previous articles.

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The Practical Problems of writing research articles on Hi-value crops : My experiences and observations.

Very frequently I receive the e-mails and phone calls from the business persons engaged with various aspects of Hi-value crops, with request that stop writing about the facts about the business and also stop awaring the common person about the cheating and mal practices that are common in business and only experts can understand it. Many times these requests are performed like order and many times they propose gift cheques and precious gifts. As I have written on almost all aspects of Indian medicinal and aromatic crops particularly on Hi-value crops like Safed Musli (*Chlorophytum borivilianum*) and Ghikuar (*Aloe vera*), now the farmers particularly the beginners starting the commercial cultivation or herbal business are benefiting from these research articles. Their increasing awareness is becoming a problem for the group of persons engaged in exploitation of these beginners. Now the beginners are asking for high quality seeds or planting material, they are giving emphasis on produces of organically grown crops, they are understanding that how they are cheated by giving wrong information about

species, etc. As researcher and science writer it is a matter of great satisfaction for me, although my awareness campaign is causing disturbances in the business of few persons. Their request cum order messages are of no value in front of hundreds of appreciation messages, I receive daily from the farmers. I am doing this awareness programme since last ten years. In the year 1994 I got complaint from the farmers that many organizations are taking very high charges in the name of training workshop for commercial cultivation of medicinal and aromatic crops and in return they are not giving sufficient information. I interacted with the organizers but they ignored my complaint. I wrote a big article in different languages exposing the organizers and adding the comments of the farmers. You will be surprised to know that this article was appeared in over 300 new papers and magazines in different parts of India. The media persons have published it at important pages with follow up by the readers. This article is still very popular and publishing in different magazines. The nation wide publication forced the organizers to not only reduce the fees but also improve the quality of training. In many parts of India, the farmers have boycotted the trainings. The encouraging and over whelming support motivated me to write regularly on these problems and inform the farming community about the fact. The initial success helped me later to oppose the introduction of Genetically Modified (GM) crops in Chhattisgarh. The concept of GM was very new for the average farmers. The researchers were supporting the technology but farmers were in dilemma. I started writing in regional languages. In spite of giving my views, I discussed negative as well as positive aspects in these articles. The farmers came forward after reading the articles by heart and the policy makers made many modifications in final plan.

But the work of social services not always results in success. Many times it create problem. As you know, I have written over 100 research articles on different aspects of wonder crop Safed Musli and all articles are available on-line at Botanical.com. Instead of this detailed information, when I receive the phone calls with inquiries regarding Safed Musli. I humbly answer to them that read the articles available on line. They are aware of articles but instead of reading the articles, they want to take the information on the same aspects through phone. Many notorious persons try to create differences in the discussion made in phone to the matter available in my article. Many of them ask for the name of genuine planting material suppliers. I always try to avoid it. As I am teaching the consumers about how to select the best material and after getting training now it is their responsibility to visit the market and select the best material from different sellers. As I am not a representative of any seller how I can recommend any specific name. earlier I was doing this work of forwarding the request to specific growers from where one can get the best materials. But I got bad experiences. After purchasing the best material many farmers blamed that I have taken the 'commission' from the sellers. Many times the sellers cheated the farmers instead of my recommendations. All things are not under my control. This is the reason I have stopped this work.

By reading the valuable information on different aspects of medicinal herbs, many researchers have started the publication of research papers using the information from the site, without taking any permission. Few days back I read a research article on Bhengra (*Eclipta alba*) in local Newspaper. By reading the two-three lines I understood that it is a part of my article at Botanical.com. I wrote a letter to researcher and the institution. On next day they accepted their fault and assured that it will never happen again. The purpose of my writing is to motivate the researchers to come forward and give their contribution to the society for which they are assigned to work. A young researcher of Chhindwara, motivated by my article, when phoned me last week that he is also eager to give his contribution to the society, I encouraged him and extended full support. I am facing the problem of 'Academic cheating' from very long time.

I am writing it again that among the great satisfaction I get by serving the beginners, the problems coming in form of threat, are of no relevance for me. You will get the opportunity to read my articles upto long time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 290. Nirmiri Ke Sag.

Nirmiri is a local name of *Nephrolepis biserrata*. Botanically, it is a stout tufted fern of drooping habit. In Chhattisgarh, it is common in almost all parts but its natural population is rich in Northern Chhattisgarh. The natives and traditional healer are less aware of its medicinal properties and uses. Nirmiri Ke Sag is prepared by using its rhizomes. This preparation is popular among the poor natives. The traditional healers are aware of its health benefits. This Sag is considered useful for the patients having troubles related to respiratory system. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I got opportunities to interact with the patients getting relief by the use of this Sag. I have also tried it successfully.

Material Required: Nirmiri rhizomes, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Sarson Tel (Mustard oil), Masale(Spices) etc.

Method of Preparation: The rhizomes are boiled in water and cut into small pieces. The pan having oil is kept on fire. The rhizome pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Nirmiri, please read my previous articles.

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Traditional medicinal knowledge about Charota White Fly *Acaudaleyrodes rachipora* feeding on Charota (*Cassia tora*) in Chhattisgarh, India.

Charota (*Cassia tora*) grows as wasteland weed in Chhattisgarh. The farmers have kept this weed in the category of medicinal weed. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. It is popularly used as potherb. In reference literatures related to different systems of medicine in India Charota holds a reputed position as medicinal herb. It harbors many insects species. Charota White Fly is among these insects. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Chhattisgarh Plains use both nymphs and adults as medicine. The nymphs are preferred to adults. The nymphs are used both internally as well as externally. The full fed nymphs are collected, and dried in shade. After drying, in powder form it is stored for future use. The traditional healers also prepare a special oil by boiling full fed

nymphs in base oil. When all watery contents evaporate the boiling is stopped and special oil is kept for future use. Charota herb is used by the traditional healers internally as well as externally as blood purifier. According to the healers, in many cases the uses of Charota results in harmful effects. In such cases they use the Charota White Fly nymphs in form of powder internally and in form of special oil externally. The healers informed that both internal as well as external uses at a time cure the trouble effectively in very less time. The patients having the problem of skin related troubles are given the insect powder alone with Shahad (Honey) in normal case but in complicated cases the powder is given in combination with medicinal herbs. The healers have deep faith in this traditional knowledge. Its popularity among them clearly indicates its efficacy. The traditional healers use the White flies feeding on different Cassia species for different purposes.

The above mentioned traditional medicinal uses of Charota White Fly have yet not been reported in reference literatures. Through the present research article it is coming among the world community for the first time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 289. Lajalu Ke Sag.

Lajalu is a local name of *Neptunia prostrata*. In the name of Lajalu many herbs are available. *Mimosa pudica* is also known as Lajalu but the traditional healers and senior natives recognize *Neptunia* as true Lajalu. It is an annual aquatic herb found in almost all parts of India. Its all parts are used as medicine both internally as well as externally in treatment of many common diseases. Lajalu Ke Sag is prepared by using young stem. The traditional healers, aware of its health benefits, are aware of refrigerant and astringent properties of Lajalu. They suggest its

internal use along with main treatment of diseases. The senior natives are aware of these medicinal uses. There is a need to popularize this Sag among the natives of young generation.

Material Required: Lajalu stem, Hardi (Turmeric), Lason (Garlic), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Lajalu stems are boiled in water and softened stems and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Lajalu, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 288. Van Bramhi Ke Sag.

Van Bramhi is a local name of *Nasturtium officinale*. It is well known herb in Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. In almost all parts of Chhattisgarh. Van Bramhi is used as vegetable. Its Sag is prepared by using its whole herb or leaves. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh. I have observed that the female natives having gynaecological troubles consume it with taste. It is also consumed during pregnancy in order to get protection against complications. The traditional healers have confirmed its promising effects.

Material Required: Van Bramhi leaves, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Van Bramhi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Van Bramhi, please read my previous articles.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 158.
Chapra Phal Ke Shurbut.**

Chapra Phal is a local name of *Myrsine capitellata*. In Chhattisgarh this tree occurs in isolated patches particularly in the regions situated at higher altitudes. The natives and traditional healers are less aware of its medicinal properties and uses. Chapra Phal Ke Shurbut is prepared by using its matured fruits. I got information about this Shurbut for the first time from the herb vendors visiting to Chhattisgarh from Northern hilly regions of India. In these regions, this tree is very common and the traditional healers are well aware of its medicinal properties and uses. The traditional healers of Chhattisgarh consider the Shurbut very useful in treatment of liver troubles. The patients are advised to use this Shurbut as supplement to main treatment. The traditional healers of Pendra region give it to the patients having advanced stage of Jaundice. To prepare the Shurbut, the fruits are boiled in water and decoction is prepared. In this decoction, sugar syrup (Chashni) is added and the combination is kept under moonlight

upto 15 days. After this duration Shurbut is considered ready for use. Diluted with water it is used round the year as per the recommendations of traditional healers.

For the botany, traditional and reported medicinal uses of Chapra Phal, please read my previous articles.

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Some Practical Problems in Aloe vera processing : My observations and experiences.

Aloe vera is one of the promising medicinal crops in which the Indian herb growers are taking keen interest. At present it is under cultivation commercially in fairly large areas. The expert farmers have started multiplying the plant and now they are planning to extend its cultivation in areas where it has been never cultivated. The medicinal properties and uses of Aloe Vera are known around the world. The increasing demand of these products at national and international markets is motivating the new farmers to start its commercial cultivation without any delay. As herb expert, I am in touch with over 500 Aloe farmers associated with Aloe at different levels. I am also in touch with the hundreds of traditional healers having in depth traditional medicinal knowledge about it. The great observation is that many of these healers are engaged in development of new Aloe products. Through the research articles at Botanical.com I am trying my best to inform the world community about these products and its health benefits. But it is a matter of surprise that the Indian farmers are not much aware of different aspects of Aloe except farming. The farming techniques they are adopting are faulty to the great extent. They are not aware of processing technique. Even the potential market. They are investing in the business, of which they are not completely aware. The results are clear. Daily I receive hundreds of phone calls letters and e-mails of depressed farmers explaining how they are cheated by the planting material suppliers, how they are fooled by them on the basis of buy back schemes and also inform about the bulk of plants available in their farms. I receive such calls mostly from Gujarat, Punjab, Haryana and Maharashtra states of India. Most of the farmers particularly the poor farmers getting poor returns are cheated by the planting material suppliers. In most of the cases, the farmers fields are covered with this fast growing herb and they have no purchasers. The non-stop queue of mails motivated me to write a separate article addressing this problem.

As mentioned earlier, I am in regular contact with the herb growers to processors, through interactions with them I have sorted out some basic problems. I am confident that the sufficient attention on these problems, can make the Aloe vera business profitable for every one.

As Agronomist, I am starting the discussion from the faulty cultivation practices. With the help of herb growers of Chhattisgarh and through the series of field experiments, we have developed the standardize method of commercial cultivation of Aloe in Chhattisgarh. This standard method is totally organic. From this point I want to mention the requirement of end user. All Aloe vera should be from organically grown Aloe crop. We all know by the basic definition of organic farming that in this farming synthetic chemicals are not used at any stage. As expert I got opportunity to visit over 35 Aloe farms claiming that they are growing the Aloe organically. By extensive visits, I found that all these farms are adopting the concept of Integrated Nutrient Management concept in which both organic and synthetic inputs are used in different ratio. These farms are using Farm Yard Manure but also applying Nitrogenous fertilizers. To repel away the insects, they are using natural pesticide but for seed treatment, the synthetic chemicals are in use. When I explained that it is not an organic farming, at first they ignored it but later informed that the application of chemical inputs help in fast multiplication of Aloe plants. They are very true but this fast multiplication results in loss of quality and this the quality on the basis of which the processors purchase it in bulk. Unfortunately, none of these farms are engaged in processing on Aloe. They are planting material suppliers and their aim is to sell the plants irrespective to the quality. The new farmers purchasing it from them, believe on them blindly and purchase the material of poor quality by giving very high prices. During recent visit to Punjab I experienced and observed the problem of poor quality crop produce due to inferior planting material. I suggested them to file complaint against the cheaters but the poor farmers want to proceed forward instead of filing complaint against the sellers. Now they want to get good results and returns from inferior material. How it is possible? You can understand the problem. Like Chhattisgarh, it is very essential to develop standard package of practice for organic cultivation of Aloe at different agroclimatic regions of India. This is the responsibility of our scientists and researchers. In standard procedure, it will take at least three years to develop standardize practice. Till then the farmers have to wait. I am aware that neither the researchers will take it seriously nor the farmers will wait for the results because from past experience the farmers are well aware of contribution of our researchers and their academic recommendations. As herb expert, I feel that it is my responsibility to aware the common farmers about the fact.

The second major problem is that every farmer want to establish Aloe vera processing unit. As a result, at present you will find the Aloe processing planting having the cost of 3 lakhs to 1 crore (or even more) Indian rupees. All processing plants are producing Aloe products of different standards. Most of them are not fulfilling the requirement of minimum International standard.

The very small processor want to get equal returns and produce, that are possible through advanced processing unit. In Northern Indian states, I have observed the use of many small units. They are unable to get the quality produce. They are aware of advanced units but they have no investment capacity. As result at first they were cheated during the purchase of planting material, now another group has cheated them in the name of machinery. Many farmers requested to improve the machinery but it is not possible to upgrade the machines made locally according to the international standards. As Aloe vera processing techniques are not available easily even at internet, the average farmers and processors are in big dilemma. I have guided and provided technical help to three Aloe vera processors of India in establishment of Hi-tech Aloe vera processing units. All three units are working well and now they have started the commercial production of products and its marketing at international level. The owners of these units are aware of the poor quality material available with the farmers. This is the reason they have selected safe way to cultivate Aloe in their crop fields under their strict supervision. They are following the standards of organic cultivation. They are not eager to sell the planting material. Obviously their emphasis is on Quality not on Quantity or multiplication. They are aware that the cultivation processing and marketing are not one man's job and are ready to purchase the Aloe from farmers. This is good news for beginners.

I have observed with the advanced units, a well equipped research and analysis laboratory. Although the establishment cost of laboratory is very high but it is an integral part of processing unit. The small processors can not afford the advanced laboratory. I personally feel that if you are doing any work, try to do it perfectly or stop the work. When the produce is of international standard and there is much competition, there is no way of compromise at any stage. At present, the small processors are dependent on government laboratories. But at international levels these laboratories have lost its credibility. Also, they take much time, although it is very cheap to take its services.

Through this long discussion, I can say as conclusion that there is a strong need to aware the farmers and processors about all aspects of Aloe vera business. Through this research article, I am trying to do the same.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 287. Vishnu Phal Ke Murabba.

Vishnu Phal is a local name of *Nothopegia colebrookiana*. It is a small tree common in many parts of Chhattisgarh. It is popular among the common natives for its good quality wood. According to the reference literatures the pale juice of the bark becomes permanent black on drying and is used as an ink. The traditional healers of Chhattisgarh are aware of many medicinal properties and uses of Vishnu Phal. Its Murabba is prepared by using its fruits. The natives prefer to consume fresh fruits but for off season use they prepare its Murabba. During the Ethno botanical surveys conducted in different parts of Chhattisgarh, many senior natives informed that the regular use of Murabba develops internal body resistance. In general they consume it upto one month in any part of the year in order to get protection form many diseases around the world. The traditional healers of Chhattisgarh have confirmed its promising effects on health.

Material Required: Vishnu Phal fruits and Sugar.

Method of Preparation: Vishnu Phal fruits are cut in small pieces and boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The small pieces are added in Chashni and combination is kept under moon light upto one week. After this duration, the Murabba is considered ready for use.

For the botany, traditional and reported medicinal uses of Vishnu Phal please read my previous articles.

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Traditional medicinal knowledge about Kaner Mite *Aceria nerii* feeding on Kaner (*Nerium indicum*) in Chhattisgarh, India.

Kaner (*Nerium indicum*) is a shrub, native to Mediterranean region. It is well known herb in Chhattisgarh. The traditional healers have rich traditional medicinal knowledge about this herb. They use its all plant parts as medicine both internally as well as externally. Its root is externally applied as a paste against ring worm. The dried leaves are on effective cardiac stimulant. This herb is grown in gardens throughout India for its fragrant flowers and also as a hedge plant. Many insects and mites infest Kaner in Chhattisgarh. Kaner mite *Aceria nerii* is one of these mites. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past I have noted that the traditional healers specialized in treatment of different types of cancer, frequently use the full fed mite as medicine. The mite is used both internally as well as externally. Internally it is used in powder form. The full fed mites are collected and dipped in aqueous extract of Neem leaves for two hours. After this duration, the mites are dried in shade and converted into powder. This powder is added in popular herbal combinations as main ingredient. The traditional healers prepare a decoction by boiling this insect powder in water. This decoction is used to wash the cancerous wounds. According to the traditional healers both internal as well as external uses at a time helps the patients to get rid from this troubles effectively. When I presented the insect powder to one of my Allopath friends with request to conduct a special trial on it, he agreed. His initial studies have shown that at initial stages of cancer, the mite powder acts in effective way. Encouraged with this observation now he is conducting the detailed studies taking insect powder and medicinal herb in different proportions. I have observed during the survey that very few traditional healers are aware of this important use. This observation motivated me to document the information about this mite without any delay.

These traditional medicinal uses have yet not been reported in reference literatures. The present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 286. Van Kamal Ke Sag.

Van Kamal is a local name of *Nymphaea tetragona* (Syn. *N. pygmea*). It is well known aquatic herb in Chhattisgarh. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh I have noted that the natives and traditional healers of Gandai-Salewara region are more aware of its medicinal properties and uses. Van Kamal Ke Sag is a popular curry among them. It is prepared by using its flower buds. The patients having poor vitality are suggested by the traditional healers to never miss the chance of its consumption in form of curry during availability season. Many healers recommend it to the patients having liver related troubles. The natives and traditional healers of other parts of Chhattisgarh are not much aware of this preparation. Through the popular articles in local languages I am trying my best to aware the common natives about this useful Sag.

Material Required: Van Kamal flower bud, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The pan having oil is kept on fire. Van Kamal flower buds and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Van Kamal, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 285. Van Chaulai Ke Sag.

Van Chaulai is a local name of *Nothosaerva brachiata*. In the name of Chaulai many species of *Amaranthus* are known in general. Although Van Chaulai belongs to *Amaranthaceae* family but it is different from *Amaranthus* species. Van Chaulai is well known herb in Chhattisgarh particularly in Chhattisgarh Plains. It is an annual herb that grows in wasteland as weed. Van Chaulai Ke Sag is prepared by using the leaves. Many times whole herb is also used as Sag (Curry). The natives consume it due to its specific taste but the traditional healers are aware of its health benefits. It is considered as good body tonic. The patients recovering from exhaustive diseases are suggested by the healers to never miss the chance of its consumption. Many healers recommend it to the patients having gynaecological troubles.

Material Required: Van Chaulai leaves, Hardi (Turmeric), Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire, Van Chaulai leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Nothosaerva brachiata*, please read my previous articles.

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The never ending list of Sag of Chhattisgarh, India. : Some interesting observations.

When I started Ethno-botanical surveys in different parts of Chhattisgarh focused on different Herbal dishes particularly on popular as well as less known Sag (Curries) I was not aware that I will get the information on hundreds of Sag. In the series on 'Herbal dishes of Chhattisgarh, India', till today I have written about over hundred types of Sag but you will be surprised to know that there are still many thousands of Sag waiting for the chance to come in the series. Earlier aware of only fifty such preparations, I was claiming in my research papers that it is the Chhattisgarh where maximum varieties are prepared and consumed with taste. But after collecting information on thousands types of Sag now I can claim that in reference literatures, the never ending list of Sag (Curries) has yet not been reported from any part of the world.

By simply reading the article, it is very hard to believe that how any leaves collected from wild can be used as Sag. At initial phase of surveys, I ignored such information but when I got opportunities to travel with the traditional healers, herb vendors and herb collectors and to stay for long time at dense forests I realized the truth and decided to document all the information in its original form. As a beginner it is very difficult to enter the forest and to watch the new herbs but imagine the condition when you are aware of all the herbs present in surrounding and also you are aware of its practical uses. By continuous travel now I have acquainted with many such herbs. During the ethno-botanical surveys at Gandai-Salewara region, we stayed for a week at dense forest. Every day the healers prepared different Sag for our team. When one of our team members got fever, the healers treated him with the Sag. In science conferences and health seminars, we talk much on 'Eat healthy, Think healthy' or 'Food is the best medicine', but in fact these are the healers that are adopting it sincerely. During the Ethno-botanical surveys at Bagbahera region, when once I visited to the forest with herb collectors, with by big lunch box, the herb collectors said throw it away, we are now in heaven. I suggested them to consume it but they were not ready to miss the chance of taking benefits from heaven.

It is common belief among the educated natives of Chhattisgarh that the herbs used as traditional Sag, is for the poor natives. They prefer the cultivated vegetables that are grown through hi-tech farming and cooked by using spices and hi-grade cooking oil. It is true that the varieties of Sag (Curries) are most popular among the poor natives and due to its specific taste, these diversity is safe with them but I have mentioned in previous articles that the poor natives are aware of its health benefits. The varieties of Sag are helping them to fight with the diseases and to save the medicinal expenses. The most important thing is that the Sag prepared from wasteland herbs or herb parts are totally free from agrochemicals. This is the reason you will find the less chances of modern diseases among the natives of rural regions as compared to their urban counter parts. In the name of educated society and hi-fi culture we are eating poison. In ancient Indian literatures related to different systems of medicine, it is clearly mentioned that the herbs cultivated by the Mother Nature (i.e. the herbs growing in wild) are the best food and medicine for common person. The natives of Chhattisgarh are using these wild herbs as Sag. Seeing the consumption and demand of many wild herbs, when many growers started the cultivation, they got poor response. I am giving the example of Bathua (*Chenopodium album*). Bathua grows as winter season weed in Chhattisgarh. Since time immemorial, the natives are collecting it from crop fields and utilizing it as Sag. In Raipur city region when many growers tried its cultivation, the natives rejected it by saying that it is not having the original taste. Even without knowing the origin of herbs, through taste the natives identify it whether it is of cultivated origin or collected from wild. This is really a great observation for me and I feel fortunate that I am living with such real intellectuals.

After getting a lot of information, I started questioning my mother to tell me the medicinal uses and health benefits of Sag (Curries) we were eating at home. My parents failed to convince me that whatever we are purchasing from markets are safe for health. I humbly requested my father to bring the specific weed species from village Khudmudi, at different seasons, I will consume it as Sag. At first my mother, curious of these herbs started adopting these weed species and today, we are consuming the herbs of Mother Nature's cultivated fields. To change the taste, on Sundays we consume modern vegetables but I am fortunate that my father is cultivating it organically.

If you are reading the series on Herbal dishes since beginning, possibly you are tired with the same method i.e. The pan is kept on fire.....with Bhat (Cooked Rice). I am also tired of writing same sentence again and again. But I have good news and that is, like variety in Sag, the natives of different parts of Chhattisgarh have many methods of preparation of one Sag. After completing the on-going series, I will write on these methods. But till then, you have to read the same method. In fact, the traditional healers consider this method as standard method. According to them, this simple cooking not only helps in its proper digesting but also the medicinal properties are restored in this method. But once our kids have tasted Pizzas and Burgers, they can not like these simple Sag. To popularize the traditional Sag among the youths

of new generation, it is very necessary to make it more tasty with care that its medicinal properties should be lost as minimum as possible.

This is a matter of surprise that no early worker has tried to document this important traditional knowledge about different Sag. When I read the list of different Sag among the traditional healers, I have collected through surveys, to impress them, the healers told that I am missing many of the preparations that were in use in early days. The senior healers gave very little information about it. You will find this incomplete information in last articles of the series. This observation clearly indicates that we have lost many valuable information regarding Sag.

It is a bitter fact that the natives of one region are not aware of herbal preparations specially Sag popular in other regions. This is the reason that the information is present in isolated patches. Through the popular science articles written in local languages, I am trying my best to provide the information collected from one region to the natives of other region. In fact, Chhattisgarh is a big state, many nations having the geographical area of Japan can easily accommodate in Chhattisgarh. Even the Southern Chhattisgarh is bigger than the Japan and I am aware that I have to work more fastly and actively.

One good sign is that the natives and traditional healers of rural and forest areas have started using the alien species of herbs as Sag. By its regular consumption, they are now able to inform about its health benefits. Through the on-going ethnobotanical surveys I am collecting this important information.

If you start consuming one traditional Sag (Curry) in a day, up to several years you will never get the same Sag in your menu. The natives and healers have herbs according to the season and health status of users, that can be used as Sag. So, be ready to get advantage from this traditional knowledge.

Herbal dishes of Chhattisgarh, India. 284. Van Dhan Ke Hardi Bhat.

Van Dhan (Wild paddy) is a local name of *Oryza coarctata*. This herb grows in wastelands in Chhattisgarh. According to the senior natives, in early days the grains of this wild rice were in use as valuable medicine. In early days it was in abundance in wild but due to introduction of new invasive species, now it is very difficult to get this herb in wild. Van Dhan Ke Hardi Bhat is a herbal preparation that was in use in early days as medicine, specifically to the women after child birth. The senior natives informed that the internal use of this preparation prevents the spread of infection and gives extra strength. These days very few senior natives are with us to identify the potential Van Dhan species and to inform about detailed preparation method. As per their description when I prepared this dish at home and used for the said purpose, I got encouraging results. I want to popularize the dish among the natives and healers of present generations but there are many constraints. Van Dhan is becoming rare herb. It can be cultivated successfully but the senior natives were using the Van Dhan growing as wild herb only.

Material Required: Van Dhan Chaur (grains), Cow ghee, Gud (Jaggery) and Hardi (Turmeric).

Method of Preparation: Van Dhan grains are cooked by adopting traditional method of rice cooking. In cooked grains, Hardi, Cow ghee and Gud are added and by thorough mixing, it is given hot to the patients.

For the botany, traditional and reported medicinal uses of Van Dhan, please read my previous articles.

Herbal dishes of Chhattisgarh, India. 283. Mahur Ke Sag.

Mahur is a local name of *Orthanthera viminea*. It is a busy shrub common in many parts of Chhattisgarh. The plants yields a fibre which is used for making ropes. The traditional healers are aware of its presence in nature and they use its all parts as medicine in treatment of many common diseases. Mahur Ke Sag is prepared by using its flower buds. According to the natives, besides its specific taste, it is good for health. It is considered useful in treatment of constipation. The traditional healers have confirmed this information. The healers consider it useful as blood purifier also. The patients having skin related troubles are advised by the healers to never miss the chance of its utilization during flowering season.

Material Required: Mahur flower buds, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Mahur flower buds and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Mahur, please read my previous articles.

Traditional medicinal knowledge about *Aceria cordiae* feeding on Dahipalas (*Cordia macleodii*) in Chhattisgarh, India.

Dahipalas is well known tree of medicinal and industrial importance in Chhattisgarh. Its all parts are used as folk medicine in Chhattisgarh. Its wood is used for agricultural implements, carving, turnery and furniture. The infestation of *Aceria cordiae* is common in many parts of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Bilaspur and Gandai-Salewara regions use this mite as medicine. The full fed mites are used for specific purpose. In form of dry powder it is used internally with Gud (Jaggery) in treatment of nervous system related troubles. Its internal use is avoided in case of pregnant women and small children. It is considered as one of the promising remedies for Mirgi (Epilepsy). Many healers burn the mite powder and suggest the patients having Mirgi to inhale the fumes. The oil prepared from this mite is considered useful in treatment of Adhasisi (Migraine). It is also used in case of normal headache. Many healers use the full fed mites in combination with Dahipalas leaves. According to them, the mites possess natural properties to nullify the harmful effects of Dahipalas leaves and vice-versa. In this way, they get harmless combination. The mites collected from old trees are preferred. The tree growing in isolation is not considered suitable for collection of mites. The trees having abnormal growth are also not preferred.

These traditional medicinal uses of *Aceria cordiae* feeding on Dahipalas have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

Traditional medicinal knowledge about *Eriophyes terminaliae* (Acarina : Eriophyidae) feeding on Koha (*Terminalia arjuna*) in Chhattisgarh, India.

According to the reference literatures, Koha (*Terminalia arjuna*) is a tree occurring throughout the greater part of India. It is also grown as avenue tree. The bark is used for dyeing and tanning and leaves are fed to tasar silkworms. Its Timber is used for agricultural implements and boat-building. The powdered bark is reported to relieve hypertension and also has diuretic and tonic effect in cirrhosis of liver. Koha is well known tree of medicinal, industrial and religious importance in Chhattisgarh. The traditional healers have rich traditional medicinal knowledge about Koha. Its all parts are used as medicine. Eriophyid mite attacks on Koha during rainy season in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past I have observed that the traditional healers of Chhattisgarh Plains use the full fed mites as medicine both internally as well as externally. The traditional healers boil the full fed mites in Til (Sesame seed) oil. When all watery contents evaporate the boiling is stopped and special oil is kept for future use. This special oil is considered as a boon for the patients having ear related troubles. Few drops of oil are able to solve many common problems. I have observed during the survey that many herb vendors sell the special oil to the traditional healers of neighbouring states, without disclosing its content. The traditional healers of Chhattisgarh are not in favour of adding medicinal herbs in this oil. Many healers use this special oil externally in treatment of wounds in different body parts. For this use they add many herbs in it. The traditional healers of Rajnandgaon region use the dried mites in combination with medicinal herbs in treatment of blood related troubles. It is considered as promising blood purifier. The traditional healers of other regions of Chhattisgarh are not much aware of these medicinal uses. The mites feeding on old Koha trees are preferred by the healers.

In reference literatures, *Eriophyes terminaliae* feeding on Koha is not mentioned as medicinal insect. These traditional medicinal uses are very popular among the traditional healers. Its popularity clearly indicates its efficacy.

Thank you very much for reading the article.

Traditional medicinal knowledge about Memri White Fly *Aleuroclava* sp. nr. *singhi* feeding on Memri (*Ocimum canum*) in Chhattisgarh, India.

According to the reference literatures, Memri is an erect herb found throughout India. The plant is used as pot-herb. The leaves are used for flavouring sources, soups and salads. The seeds are considered as diuretic and tonic and are used in the preparation of cooling drinks. The decoction of plant is taken for cough, that of leaves for dysentery. It is also used as mouth wash for relieving toothache. In Chhattisgarh, Memri grows as wasteland and field weed. The farmers have kept this herb in the category of medicinal weeds. The traditional healers use its all parts as medicine. On its wild population many insect species attack. Memri White fly is one of these insects. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers specialized in treatment of skin related troubles use the nymphs of Memri White fly as medicine. It is considered as promising blood purifier. The freshly collected nymphs are dried and converted into powder. This powder is given internally in combination with Shahad (Honey) as supplement to main treatment. Many healers add medicinal herbs with this powder in order to make it more promising but most of the healers are satisfied with the performance of insect powder. They are unable to explain whether the herb present inside the nymphs are giving the results or the insect itself is giving the desirable effects the traditional healers of Chhattisgarh Plains prepare a decoction by boiling full fed nymphs with Memri leaves in water. This decoction is used to wash the old wounds. According to the healers this application increases the healing rate. The traditional healers of Bastar region informed that the decoction can also be used to dress the cancerous wounds.

In reference literatures, Memri White fly is not mentioned as medicinal insect. The present research article is the first written document on this important aspect.

Thank you very much for reading the article.

Traditional medicinal knowledge about White Fly *Indoaleyrodes* sp. feeding on Ankol (*Alangium salviifolium*) in Chhattisgarh, India.

According to the reference literatures, Ankol (*Alangium salviifolium*) is a small tree with edible fruits. It is found throughout the country particularly in drier parts. The wood is used for making musical instruments, and an alkaloid from bark is said to lower blood pressure. In Chhattisgarh Ankol is well known tree of medicinal importance. Its all parts are used very commonly as traditional medicine. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Ankol rich regions of Southern Chhattisgarh use *Indoaleyrodes* sp. feeding on this tree as medicinal insect. Both nymphs and adults are used but nymphs are used more commonly. I have mentioned in previous articles that the healers of Chhattisgarh use many herb and insect based formulations to nullify the harmful effects of rat-bite. The traditional healers of Southern Chhattisgarh prepare full fed nymph based herbal combinations for this purpose. Many healers mix the dry insect powder with cow urine and in form of an aqueous paste, apply it on affected part. According to the traditional healers both internal as well as external uses at a time cures the trouble effectively in very less time. In treatment of Diarrhoea, the traditional healers of Charama region mix the dry insect powder with Dahi (Curd) and give the combination to the patients, many times a day, till complete cure. It is considered as one of the promising treatments. In general, the healers do not inform the patients that they are using insect powder. Many healers consider it useful in treatment of bronchitis but as other promising alternatives are available it is used less commonly. The traditional healers of Narharpur region boil the full fed, freshly collected nymphs in base oil to prepare special oil. This special oil is used as cure for burning sensations in soles and palms. The special oil is massaged gently on affected parts. I have tried it successfully many times. The traditional healers of other regions of Chhattisgarh are not much aware of these uses.

These traditional medicinal uses of *Indoaleyrodes* sp. feeding on Ankol have yet not been reported in reference literatures. It is a matter of appreciation that the traditional healers of Southern Chhattisgarh are not only aware of these uses but also they are practicing this traditional knowledge in their daily life. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White Fly *Dialeurodes* sp. feeding on Chilkhan (*Ficus retusa*) in Chhattisgarh, India.

According to the reference literatures, Chilkhan (*Ficus retusa*) is a large or medium sized evergreen tree with a dense crown. It is native to India and Malaysia. It is grown in Gardens and as an avenue tree. The natives and traditional healers of Chhattisgarh have rich traditional medicinal knowledge about all *Ficus* species including *Ficus retusa*. The *Ficus* trees are considered as the trees of religious importance also. Chilkhan is present in almost all parts of Chhattisgarh. Many insects infest this tree in wild. The White fly *Dialeurodes* sp. is one of these insect species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers specialized in treatment of diseases related to respiratory system use the full fed nymphs and adults of this White fly as promising medicine. In form of shade dried powder the full fed nymphs and adults are given internally alone (in normal cases) and in combination with medicinal herbs (in complicated cases). This use is common in almost all parts of Chhattisgarh where these specialist healers live. Many healers suggest the patients having bronchitis to burn the insect powder and inhale the fumes coming from it. It is considered beneficial for them. The traditional healers of Keshkal region use the decoction of full fed nymphs for different purpose. The patients having the problem of throat related troubles are advised by the healers to gargle with this decoction. This use is limited to these healers. The healers using the insect powder internally avoid its use in case of patients having poor vitality. The patients allergic to this powder are suggested by the healers to take the powder in combination with Chilkhan leaves. According to the healers the natural chemicals present in Chilkhan leaves nullify the harmful effects. In general, the healers do not inform the patients that they are using insect powder as medicine.

The above mentioned traditional medicinal uses of this White fly species feeding on *Ficus retusa* have yet not been reported in reference literatures. Through the present article, this valuable information is coming among the world community, for the first time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 282. Van Jhunki Ke Sag.

Van Jhunki is a local name of *Ophioglossum reticulatum*. It is a terrestrial fern common in many parts of Chhattisgarh. The natives and traditional healers are less aware of its medicinal properties and uses. During the Ethnobotanical survey conducted in different parts of Chhattisgarh I have observed that the natives of Bhopalpatnam region use this fern as Sag (Curry) for specific purpose. It is given to the woman after child birth. The traditional healers informed that the use of its Sag at this stage helps in preventing the body from infection. It also gives strength to the women. The natives and traditional healers are not aware of its other health benefits. I personally feel that there is a strong need to popularize this preparation around the world.

Material Required: Van Jhunki plant, Hardi (Turmeric), Lason (Garlic), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Van Jhunki plant is chopped in small pieces and in combination with all ingredients added in pan. The combination is roasted well. The curry is served hot with Bhat (Cooked Rice). The senior natives of Bhopalpatnam region add more medicinal herbs with this Sag, in order to make it more promising. Many times the herbs of Van Jhunki are added in other curries.

For the botany, traditional and reported medicinal uses of *Ophioglossum reticulatum*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 281. Van Dhanía Ke Sag.

Van Dhanía (*Oenanthe javanica*) is a perennial stoloniferous herb. In Chhattisgarh, its distribution is limited to very small areas. During the Ethno-botanical surveys conducted in Narharpur region, I have observed the rich wild growth of Van Dhanía. Through the natives and traditional healers of this region, I got information regarding this Sag (Curry). Van Dhanía Ke Sag is prepared by using whole plant. It is popular among the poor natives as they get this wasteland herb without paying any cost. The traditional healers of Narharpur region informed that they recommend this preparation to the patients having digestive system related troubles. It is very useful in treatment of chronic constipation. This herb is also used raw for medicinal purpose. I have yet not observed the use of Van Dhanía Ke Sag in other parts of Chhattisgarh.

Material Required: Van Dhanía leaves, Hardi (Turmeric), Tel (Oil), Namak (Salt), etc.

Method of Preparation: The pan having oil is kept on fire. Van Dhanía leaves and other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Oenanthe javanica*, please read my previous articles.

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Traditional medicinal knowledge about White fly *Dialeuromada* sp. feeding on Papari (*Pavetta indica*) in Chhattisgarh, India.

According to the reference literatures, Papari is a shrub or small tree distributed throughout greater parts of India. Its flowers and fruits are edible. The roots are used for visceral obstructions, jaundice, headache, urinary diseases etc. The wood is used for rheumatism. Papari is well known among the natives and traditional healers. The traditional healers use it as traditional medicine. The dense forests are rich in natural population of this herb. The infestation of White Fly *Dialeuromada* sp. is common in almost all parts of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers use the full fed nymphs and adults of *Dialeuromada* sp. as medicine. I have mentioned in previous articles that the *Dialeuromada* species feeding on different plants are used for different purposes, in Chhattisgarh. The traditional healers use *Dialeuromada* feeding on Papari as medicine both internally as well as externally. Internally, the full fed nymphs are used in form of dry powder, in combination with medicinal herbs. It is added in popular herbal combinations used in treatment of liver and urinary system related troubles. Externally, the nymphs are used alone, in treatment of Bavasir (Piles) particularly in case of bleeding piles. As simple treatment the insect powder is applied directly on Piles. For long term use the traditional healers prepare a special herbal oil by boiling the nymphs in base oil. As base oil Sarson (Mustard seed) oil is used. This oil is applied externally on affected parts as medicine. During the surveys I got the opportunities to interact with the patients getting relief from this special oil. Their encouraging responses motivated me to document the information regarding it without any delay and to commercialize the product after taking the consent of the traditional healers. The traditional healers of other parts of Chhattisgarh are not much aware of these uses.

In reference literatures, *Dialeuromada* sp. feeding on Papari is not mentioned as medicinal insect. The present research article is the first written document on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Dialeuronomada* sp. feeding on Dikamali (*Gardenia gummifera*) in Chhattisgarh, India.

Dikamali (*Gardenia gummifera*) is well known tree of medicinal importance in Chhattisgarh. The dense forests of Chhattisgarh are rich in natural population of Dikamali. The traditional healers have in depth traditional medicinal knowledge about this herb. They use its all parts as medicine. The gum oleoresin obtained from the bud is used medicinally as carminative, stimulant and in dyspepsia. For the first time I got opportunity to observe the severe infestation of White fly *Dialeuromada* sp. on Dikamali at forest of Bilaspur region. The traditional healers of this region are aware of many promising medicinal uses and properties of this White fly species. During the Ethno-entomological surveys conducted in this region, I got opportunities to observe its practical uses and to note the detailed uses. The full fed nymphs and adults of *Dialeuromada* are used both internally as well as externally. Internally, the nymphs and adults are used in form of powder. To prepare the powder, the nymphs and adults are dried in shade and after drying, converted into powder. Once prepared in bulk this powder can be stored upto long time. The healers prefer nymphs as compared to the adults. During storage, the powder is protected from moisture. The insect powder is added as major ingredient in many popular herbal combinations used to flush out the intestinal worms. Many healers use the insect powder in combination with Gud (Jaggery). According to them, the internal use of this combination cures the trouble effectively in very less time. The healers have deep faith in this traditional use. Externally, the insect powder is used for hair care in many ways. In form of decoction, it is used to wash the hairs. Many healers prepare a special oil by boiling freshly collected nymphs in Til (*Sesamum* seed) oil. This oil is considered as a boon for the patients having the problem of Alopecia. The oil is massaged gently on hairs. This massage is also recommended to the patients having the problem of Insomnia. I have observed during the survey that many herb vendors sell this special oil to the traditional healers of neighbouring states without disclosing its contents. The traditional healers avoid its use in case of pregnant woman and small children.

The above mentioned traditional medicinal uses of *Dialeuromada* feeding on *Dikamali* have not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 280. Duddhi Nar Ke Sag.

Duddhi Nar is a local name of *Oxystelma secamone*. It is a common climber found in almost all parts of Chhattisgarh. Due to its latex, it is known as Duddhi among the natives. The natives and traditional healers have rich traditional medicinal knowledge about this herb. In general it grows as wasteland herb. In reference literatures, its use as fodder for cattle is reported but it is not used for this purpose in Chhattisgarh. Duddhi Nark Ke Sag is prepared by using its leaves. The natives consume it in small amount for its specific sweetish taste. The large dose cause upset in stomach. The traditional healers consider this Sag (Curry) useful in treatment of liver related troubles. The patients having the problem of Jaundice (Pelea) are advised by the healers to never miss the chance of using this Sag during availability period. Many healers recommend it in treatment of constipation.

Material Required: Duddhi Nar leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Duddhi Nar leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Oxystelma* please read my previous articles.

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Traditional medicinal knowledge about White Fly *Aleuromarginatus kallarensis* feeding on Karanj (*Pongamia pinnata*) in Chhattisgarh, India.

Karanj (*Pongamia pinnata*) is a well known tree of medicinal and industrial importance in Chhattisgarh. The traditional healers of Chhattisgarh use its all parts as medicine both internally as well as externally in treatment of many common disease. Its seed oil is used for soap-making and as an illuminant. The leaves are used as manure and fruits are edible. The recent research on possibilities of Karanj seed oil as energy crop has established this tree as valuable tree among the natives. Many insect species infest Karanj. The White fly species *Aleuromarginatus kallarensis* is among these insects. The nymphs cause much damage to Karanj trees. In Chhattisgarh, Karanj grows as wasteland tree and its commercial plantation has started very recently. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past I have observed that the traditional healers are aware of many medicinal uses of *Aleuromarginatus* but the healers of different regions are using its for different purpose. Its use in treatment of skin related troubles is very popular among them. The full fed nymphs are used as special oil as well as in form of decoction. The healers prefer the special oil. To prepare the special oil, full fed nymphs (and also adults) are boiled in Sarson (Mustard seed) oil and when all watery contents evaporate the boiling is stopped and special oil is kept for future use. This special oil is used externally. It is considered very useful in treatment of common skin troubles. The oil is also applied on old wounds. Many healers add medicinal herbs in this oil, in order to

make it more promising, but most of the healers are satisfied with the efficacy of special oil having nymphs. The decoction is prepared by boiling nymphs and adults in water. The nymphs and adults are mixed in equal proportion whereas both are added in 1:5 ratio in water. The solution is boiled and when half quantity (of initial quantity) of water remains the boiling is stopped and decoction is used. The affected parts are washed with the help of decoction. Every time fresh decoction is prepared. The traditional healers of Southern Chhattisgarh use the nymphs in form of powder in treatment of spleen related troubles. The insect powder is given internally alone or in combination with medicinal herbs. Although it is an age old practice but among the traditional healers this practice is losing its popularity. The traditional healers of present generation are using more herb based formulations. From documentation point of view, it is an important information.

These traditional medicinal uses of *Aleuromarginatus* feeding on Karanj have yet not been reported in reference literatures. Through the present research article, this vital information is coming among the world community for the first time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 279. Van Kutki Ke Burfi.

Van Kutki is a local name of *Panicum trypheron*. This annual grass grows as wasteland herb in rainy season. The traditional healers of Chhattisgarh are less aware of its medicinal properties and uses. During the Ethno-botanical surveys conducted in different parts of Chhattisgarh, many senior natives of Chhattisgarh informed that in early days of the traditional healers were recommending the sweet preparation Burfi, prepared by using its roasted seeds, as body tonic.

The healers of present time are not aware of this preparation. The common natives are also not aware. On the basis of the method given by the senior natives when I prepared and tried this Burfi, I found it very promising as tonic. This result encouraged me to document the information regarding this sweet preparation without any delay. I am trying my best to popularize its use among the healers of present generation.

Material Required: Van Kutki seeds, Sugar, Cow ghee and Besan (Gram flour).

Method of Preparation: Van Kutki seeds are roasted and converted into powder. The Gram flour is roasted in pan separately with the help of cow ghee. After roasting Van Kutki seeds are added. The mixture is roasted further. In this mixture, Sugar syrup is added and the thick solution is spread in plates. After drying it is cut into square pieces.

For the botany, traditional and reported medicinal uses of Van Kutki, please read my previous articles.

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Traditional medicinal knowledge about Sirsa White fly *Acaudaleyrodes* sp. nr. *rachipora* feeding on Sirsa (*Albizia lebbeck*) in Chhattisgarh, India.

Sirsa (*Albizia lebbeck*) is a tree of industrial as well as medicinal importance in Chhattisgarh. It is well known tree in Chhattisgarh. The traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about Sirsa. Its all parts are used as medicine. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past I have noted that the traditional healers are aware of many important medicinal uses and properties of

Sirsa White fly but the traditional healers of Northern and Southern Chhattisgarh are using it for different purposes. The traditional healers of Northern Chhattisgarh are using the full fed nymphs and adults, both internally as well externally in treatment of eye related troubles. In combination with Gulbakawali (*Hedychium coronarium*) extract the traditional healers use the aqueous extract of full fed nymphs in treatment of common eye related trouble. Few drops of this combination are applied into the eyes. Internally, the dry insect powder is added as main ingredient in popular herbal combinations. According to the traditional healers of Ambikapur region both internal as well as external use cures the trouble effectively in very less time. These uses are very popular among them. The traditional healers of Southern Chhattisgarh are using the dry insect powder in treatment of respiratory system related troubles. The powder is given alone twice a day as treatment. Many healers burn the dry powder and suggest the patients to inhale the fumes coming from it. Although many other alternatives are available but the traditional healers are using this powder with deep faith. Its popularity among them clearly indicates its efficacy. When I informed the traditional healers of Northern Chhattisgarh about the different uses that are popular among the healers of Southern Chhattisgarh and vice-versa, the healers of both regions have agreed to try the new uses. The traditional healers of Chhattisgarh Plains are not much aware of these uses. Many herbs vendors have informed about its use as remedy of Ringworm but I have yet not seen its practical uses.

These traditional medicinal uses of Sirsa White fly have yet not been reported. The present research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Aleurodicus disperses* feeding on Papri (*Holoptelea integrifolia*) in Chhattisgarh, India.

According to the reference literatures, Papri (*Holoptelea integrifolia*) is a tree occurring throughout India. It is also planted as avenue tree. Its timber is used for furniture, Cabinet-work, decorative paneling, carving, plywood, packing cases, slate frames and brushes. The wood pulp is used for paper making. Papri is well known herb in Chhattisgarh. The traditional healers are aware of its less but promising medicinal uses. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers specialized in treatment of animal diseases frequently use the nymphs and adults of White fly *Aleurodicus* disperses feeding on Papri as medicine. The full fed nymphs and adults are boiled in water to prepare the decoction. This decoction is used to wash the cattle having skin related troubles. During rainy season all cattle are washed with this decoction as precautionary measure. According to the traditional healers, they are using this decoction since generations. Its popularity among them clearly indicates its efficacy. The traditional healers of Bagbahera region burn the dry powder of its nymphs and adults with Bhirra (*Chloroxylon swietenia*) leaves, in order to repel away other insects specially flies. This combination is also used near to the patients bed, in order to protect them from pathogens. The insect powder is used with Neem leaves in same manner by the traditional healers of Narharpur region. The use of nymph is preferred by most of the healers. The other White fly species are not used for this purpose by these healers.

These traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White Fly *Aleurolobus* sp. feeding on Ban Nimbu (*Glycosmis pentaphylla*) in Chhattisgarh, India.

According to the reference literatures, Ban Nimbu is a shrub distributed throughout the India and sometimes cultivated in gardens. Its fruits are edible and juice extracted from leaves is used in indigenous medicine for fever, liver complaints and as vermifuge. Ban Nimbu is well known herb in Chhattisgarh. The traditional healers have rich traditional medicinal knowledge about this herb. Many insects infest Ban Nimbu in Chhattisgarh. The White Fly *Aleurolobus* is one of these insects. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the traditional healers specialized in treatment of Jaundice (*Pelea*) use the full fed nymphs and adults as medicine. The traditional healers of Ambikapur region informed that they use *Bhuiaonla* (*Phyllanthus niruri*) in treatment of Jaundice, but in many cases the use of *Bhuiaonla* results in harmful effects. In such cases they add full fed nymphs and adults in dry powder form, with *Bhuiaonla*. The traditional healers of Chhattisgarh Plains are also agree with its effects. The insect powder is also used alone as medicine but it is given in small doses and upto very long time. In general, it is given in combination with Shahad (Honey). The traditional healers of Kanker region prepare a special oil by boiling the freshly collected nymphs in base oil. As base oil Sarson (Mustard seed) oil is used. This special oil is used externally in treatment of skin related troubles, but as other promising alternatives are available it is used less commonly. During the survey, I got the opportunity to interact with the natives using this special oil. Their encouraging responses motivated me to document this important traditional knowledge without any delay. The traditional healers are not aware of its other traditional medicinal uses.

In reference literatures, this insect is not mentioned as medicinal insect. The present article is the first written document on this important aspect. Through the on-going Ethno-entomological surveys I am trying my best to gather more information on the other traditional medicinal uses of this insect.

Thank you very much for reading the article.

Traditional medicinal knowledge about White Fly *Aleuroclava hiptae* feeding on *Madhavalata* (*Hiptage benghalensis*) in Chhattisgarh, India.

Madhavalata (*Hiptage benghalensis* syn. *H. madablota*; *Banisteria benghalensis*) is an evergreen climbing shrub, native to India and Malaysia. It is grown in gardens for its white and yellow fragrant flowers. Among the traditional healers of Chhattisgarh, Madhavalata is known for its valuable medicinal properties and uses. Its all parts are used as medicine. The natural forests of Chhattisgarh are rich in Madhavalata. It is also planted as ornamental herb in home gardens. The infestation of white Fly is common in Chhattisgarh. During the Ethno-entomological conducted in different parts of Chhattisgarh in recent past, I have observed that many senior natives and traditional healers of Chhattisgarh Plains use the full fed nymphs and adults collected from Madhavalata as medicine. The full fed nymphs and adults are used in treatment of skin related troubles through different ways. Its uses in form of ointment and special oil are most common. Many medicinal herbs are also added in ointment and special oil in order to make it more promising. These ointments and special oil are used externally. In general, the senior natives and traditional healers use it in treatment of infectious skin troubles common in rainy season. The special oil is also applied on infection between the fingers common among farm workers working in submerged paddy fields. The patients having the problem of Daad (Ringworm) are advised by the healers to use the decoction of White fly nymphs and adults during bath. Many healers recommend its internal use in form of dry powder, in treatment of liver related troubles, but as other promising alternatives are available, it is used very rarely. From documentation point of view, it is an important information. The natives are traditional healers of other parts of Chhattisgarh are not aware of these medicinal uses. The traditional healers of Chhattisgarh Plains do not adopt any special method or precautions during the collection of insects.

In reference literatures, *Aleuroclava hiptae* feeding on *Hiptage benghalensis* is not described as medicinal insect. The present research article is the first written document on this important aspect.

Thank you very much for reading the article.

Traditional medicinal knowledge about White fly *Aleuroplatus alcocki* feeding on Karra (*Cleistanthus collinus*) in Chhattisgarh, India.

Karra is well known tree distributed in many parts of Chhattisgarh. Its bark, leaves and green fruits are used as tan. Writing and printing papers of satisfactory quality are reported to have been made from wood. I have mentioned in previous articles that the natives particularly the farmers use different parts of Karra as natural pesticide in management of pest in crop fields. In Bhavanipatna region of Orissa, a neighbouring state, it is also used for the same purpose. The traditional healers of Chhattisgarh consider it as promising medicinal herb. Although it is popularly used to manage agricultural pest but the Mother Nature has made its enemies also. The White fly *Aleuroplatus alcocki* is one of these enemies. I have seen its attack in Southern parts of Chhattisgarh but according to the traditional healers and herb collectors, this infestation is common in all Karra growing regions of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have noted that the traditional healers specialized in treatment of different types of cancer use the full fed nymphs and adults feeding on Karra as medicine. The nymphs and adults are dried in shade after collection. Before making it into powder, the dead bodies are dipped in specific herbal solution. As secret traditional knowledge the healers refused to give the method of preparation of specific herbal solution. The purpose of dipping is not only to eliminate its toxic contents but also to enrich it with the solution. The dried bodies are converted into powder and stored for future use. The powder is used both internally as well as externally. The powder can be stored up to two years but as Karra and the insect both are available commonly in surroundings, every year the traditional healers prepare new powder. Internally, it is used as major ingredients in popular herbal combinations used in treatment of different cancers. The healers do not want to disclose the herbs used in herbal combination but many healers aware of my on-going documentation work informed that all bitter herbs present in surroundings are added. Most of the herbs are rare herbs and used for this specific purpose only. Externally, in form of decoction the powder is used to wash the cancerous wounds. According to the traditional healers, both internal as well as external use of insect powder cures the trouble effectively in very less time. The traditional healers have deep faith in these uses. Its popularity among them clearly indicates its efficacy. The traditional healers are not aware of its other medicinal uses. During collection of insect from Karra tree the traditional healers adopt special precautions. I got opportunities to visit with the healers in dense forests in search of potential insects many times. Karra trees growing near the Koha (*Terminalia arjuna*), Parsa (*Butea monosperma*) and Neem (*Azadirachta indica*) trees are not preferred for the collection of insect. Karra tree growing in isolation is preferred. Karra tree growing in stressed conditions are not preferred.

These traditional medicinal uses of White fly feeding on Karra have not been reported. The present research article is the first written document on this important aspect. I am feeling proud to document this important traditional knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Bemisia tabaci* feeding on Utran (*Pergularia daemia*) in Chhattisgarh, India.

According to the reference literatures, Utran is a twinner found throughout hotter parts of India. Its leaves and flowers are edible. The juice of leaves is used in catarrhal affections, in infantile diarrhea, given in asthma and also applied to rheumatic swellings. The plant extract is used for uterine and menstrual troubles. Utran is well known herb in Chhattisgarh. The traditional healers are aware of its medicinal properties and uses. The dense forests of Chhattisgarh are rich in natural population of this herb. The infestation of White fly *Bemisia tabaci* is common in Utran. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Chhattisgarh Plains use the full fed nymphs both internally as well as externally in treatment of many common troubles. The full fed nymphs are collection and after shade drying converted into powder. This powder is given internally with Shahad (Honey). According to the traditional healers, this powder is a boon for the patients having toxic contents inside the body. The internal use of this insect powder flushes out all the toxins and make the body pure-the healers informed. Many healers give this powder to the patients coming from urban areas after taking Allopathic medicine, in order to nullify the effects of medicine, before starting systematic treatment. In Homoeopathy, we use the drug *Nux vomica* for the same purpose. The promising effects of insect powders have established it among the traditional healers. I have observed during the survey that many herb vendors are engaged in collection and supply of this insect powder to the traditional healers of neighbouring states. Possibly, the healers of neighbouring states are not much aware of its collection procedure. The traditional healers of Chhattisgarh aware of medicinal uses of nymphs, prepare a decoction by boiling it in water. This decoction is used in form of gargle to treat throat related troubles. Many times the decoction is prepared with leaves of Utran. This decoction is considered very useful in treatment of Tonsillitis. It is also considered beneficial for dental

troubles, but as other promising alternatives are available, it is used less commonly. The traditional healers are not aware of its other medicinal uses.

In reference literatures, the traditional medicinal uses of *Bemisia tabaci* feeding on Utran have not been reported. The present research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Rhachisphora trilobitoides* feeding on Tendu (*Diospyros melanoxylon*) in Chhattisgarh, India.

According to the reference literatures, Tendu is a tree distributed in many parts of India. Its fruits are edible and leaves are used for wrapping bidis, popular smoke of Indians. Its wood is used for shafts, poles, brush-backs, walking-sticks, turnery, carving and billiard cues and bark and half ripe fruits are used for tanning. The species is considered important for afforestation purposes. In Chhattisgarh Tendu is also known for its valuable medicinal properties. I have observed the infestation of White fly *Rhachisphora trilobitoides* only in Keshkal region of Chhattisgarh. The traditional healers of this region are well aware of medicinal uses of Tendu as well as the insect (i.e. *Rhachisphora trilobitoides*) feeding on it. During the Ethno-entomological surveys conducted in recent past, I have collected many valuable information regarding its traditional medicinal uses in this region. The full fed nymphs are added in dry powder form, in almost all popular herbal combinations used as sex tonic. The traditional healers informed that they are aware of its aphrodisiac properties since generations. The insect powder alone is not used for this purpose. The traditional healers use the insect powder alone in treatment of liver related troubles. It is given internally in small doses with Shahad (Honey). In general, the traditional healers keep the patients under their supervision during the use of insect powder. It is

its effectiveness that this powder is very popular among the traditional healers. I have observed during the survey that many herb vendors sell this powder to the traditional healers and interested persons of neighbouring states. Many healers prepare a special oil by boiling the full fed nymphs in Sarson (Mustard seed) oil. This special oil is used externally in treatment of joint pains, but as other promising alternatives are available, it is used less commonly by the traditional healers. The traditional healers of Keshkal region adopt special collection procedures during the collection of nymphs and adults. Many times they collect it with infested plant parts. The Tendu trees growing in isolation are preferred for the collection of insect. Very young trees are avoided.

In reference literatures, *Rhachisphora trilobitoides* feeding on Tendu is not mentioned as medicinal insect. This is a matter of appreciation that the traditional healers of Keshkal region are not only aware of its potential uses but also they are using it in their routine practice.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 278. Harpharevadi Ke Sag.

Harpharevadi is a local name of *Cicca acida*. It is well known tree in Chhattisgarh. It is not a native to Chhattisgarh. It is introduced in the state for its fruits. Living with this tree, in many years the traditional healers have discovered its many promising medicinal uses. Harpharevadi Ke Sag is prepared by using its leaves. This Sag (Curry) is popular among the poor natives. They consume it for its specific taste. The traditional healers of Chhattisgarh aware of its health benefits, recommend its regular consumption to the patients having gynaecological troubles. The normal female natives are also suggested by them to consume it in order to get protection from these troubles.

Material Required: Harpharevadi leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The Pan having oil is kept on fire. Harpharevadi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Harpharevadi, please read my previous articles.

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Traditional medicinal knowledge about White fly *Lipaleyrodes euphorbiae* feeding on Harpharevadi (*Phyllanthus acidus*) in Chhattisgarh, India.

Harpharevadi (*Phyllanthus acidus* syn. *Ciccaacida*; *Averrhoa acida*) is a small tree under cultivation for its fruits, in Chhattisgarh. The natives know this tree from its fruits. For the traditional healers it is a valuable medicinal tree. The healers have rich traditional medicinal knowledge about Harpharevadi. Its all parts are used as traditional medicine. Although the infestation of White fly *Lipaleyrodes euphorbiae* is common in all parts of Chhattisgarh, but in Southern Chhattisgarh the percentage of infestation is very high. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the traditional healers of Southern Chhattisgarh use this insect as medicinal insect. As medicine, it is used both internally as well as externally. The full fed nymphs and adults are used in powder form. For preparation of powder, the nymphs and adults are dipped in specific solution after collection, for two hours. This specific solution is prepared by mixing the aqueous extracts of Neem (*Azadirachta indica*) and Tulsi (*Ocimum sanctum*) leaves in equal proportions. The purpose of this dipping is to eliminate its toxic contents. After two hours, the nymphs and adults are dried in shade and after drying converted to powder. According to the traditional healers this powder can be used upto four years but as this insect is available easily, they

prepare fresh powder every year. This powder is given internally as blood purifier. It is specially recommended to the patients having skin related troubles. Many healers use this powder in combination with medicinal herbs. Externally, the powder is used in treatment of respiratory troubles. The patients are suggested by the healers to burn the powder and inhale the fumes coming from it. The healers informed that by reaching in the lungs, the fumes act as germicide. I am not sure about the correctness of this explanation but I have observed during the survey that the healers have deep faith in this use. The traditional healers of other regions of Chhattisgarh are not aware of these traditional medicinal uses. Many healers of other regions informed me that the healers of Southern Chhattisgarh have gained this important knowledge from the herb vendors coming from neighbouring states where Harpharevadi is present since long time.

These traditional medicinal uses of White fly *Lipaleyrodes euphorbiae* feeding on Harpharevadi have not been mentioned in reference literatures. This research article is the first written document on this importance aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Aleurolobus marlatti* feeding on Sarphonk (*Tephrosia purpurea*) in Chhattisgarh, India.

According to the reference literatures, Sarphonk (*Tephrosia purpurea*) is a herb occurring all over India. It is also grown as green manure and cover crop. The powdered leaves are smoked for relief from respiratory troubles. Its leaves are reported to contain rutin and also yield dye. In Chhattisgarh, Sarphonk grows as wasteland weed. Aware of its different uses, the farmers have kept it in the category of medicinal weeds. The traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. They use its all parts as medicine. The attack of White fly *Aleurolobus marlatti* is common in Chhattisgarh. During the Ethno-entomological

surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Bagbahera region use the full fed nymphs and adults of this White fly as medicine in treatment of venereal diseases specifically. The nymphs and adults are dried in shade and converted into powder. This powder is added in popular herbal combinations used in treatment of Garma (Syphilis) internally. According to the traditional healers, this powder have specific role in these herbal formulations and without this powder most of the formulations are useless. In general, the traditional healers do not disclose this 'Secret' to any one. The healers aware of on-going documentation work shared this information after understanding the importance of documentation. The traditional healers specialized in treatment of Sujak (Gonorrhoea), use the nymphs and adults in form of decoction externally. To prepare the decoction, the insects are boiled in water at specific ratio. When half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is used. The patients are advised to wash the genitals with this decoction many times a day. This use is very popular among them. Its popularity clearly indicates its efficacy. During the collection of insects, the healers take many precautions. Sarphonk herb growing in Lateritic (Murrum) soil is not considered fit for the collection of insects. The healers are unable to give scientific reason for this precaution. I am trying my best to search the science behind it.

These traditional medicinal uses of *Aleurolobus marlatti* feeding on Sarphonk have yet not been reported in reference literatures. The traditional healers of Bagbahera region are not aware of its other medicinal uses and properties. Also, the traditional healers of other regions are also unaware of these uses.

Thank you very much for reading the article.

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Traditional medicinal knowledge about White fly *Aleuroclava wrightiae* feeding on Kuchla (*Strychnos nuxvomica*) in Chhattisgarh, India.

According to the reference literatures, Kuchla is a tree occurring throughout tropical India. Its seeds are source of drug 'Nux vomica' which is used as tonic and stimulant. It is also used in treatment of nervous disorders. The seeds are added to beverages to make them intoxicating. Its Timber is handsome and is used for agricultural implements, fancy cabinet work and as ornamental panels. In Chhattisgarh, Kuchla is well known medicinal tree. The natives and traditional healers have in depth traditional medicinal knowledge about Kuchla. Many insect species attack on Kuchla tree in wild. The Whitefly *Aleuroclava wrightiae* is one of these insect species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Bastar region use both nymphs and adults as medicine. This region of Chhattisgarh is rich in natural population of Kuchla trees. The traditional healers boil the freshly collected full fed nymphs and adults in Sarson (Mustard seed) oil and when all watery content evaporate, the boiling is stopped and special oil is kept for future use. This special oil is used for various purposes. This special oil is considered as a boon for the patients having the problem of Lakwa (Paralysis). In small quantity, the oil is massaged gently on numb parts. I have mentioned in previous articles that the traditional healers of Chhattisgarh Plains use Red Velvet mite (*Trombidium* sp.) in same way in treatment of Paralysis. The healers of Bastar region informed that the nymphs feeding on Kuchla are hot in nature. This is the reason it is used successfully in treatment of Paralysis. Many healers add many medicinal herbs in this special oil in order to make it more useful but most of the healers use the oil without medicinal herbs. You will be surprised to know that many traditional healers suggest their patients to apply the same oil on anus in order to get rid from Bavasir (Piles). As other promising alternatives are available, it is used less commonly for this purpose. But from documentation point of view, it is an important information. The traditional healers of other regions of Chhattisgarh are not much aware of these uses.

In reference literatures, *Aleuroclava wrightiae* is not mentioned as medicinal insect. This research article is the first written document describing its traditional medicinal uses in Chhattisgarh.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 277. Subabool Ke Sag.

Subabool is a local name of *Leucaena leucocephala*. It is an exotic herb. As timber yielding tree it is introduced in Chhattisgarh. Now this tree has naturalized in Chhattisgarh. The traditional healers have discovered its medicinal uses and properties. Subabool Ke Sag is popular among both the natives and traditional healers. The natives consume it for its specific taste whereas the traditional healers are aware of its health benefits. It is recommended for the chronic constipation. The patients are advised to take this Sag till complete cure. The healers informed that it possess some toxic contents. Therefore it must be used after pretreatment. They are not in favour of using it in larger doses.

Material Required: Subabool pods, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pods are boiled in water many times and water is drained out. The pan on having oil is kept on fire. Subabool pods and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Subabool, please read my previous articles.

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Traditional medicinal knowledge about *Heteropsylla cubana* Crawford feeding on Subabool (*Leucaena leucocephala*) in Chhattisgarh, India.

Subabool (*Leucaena leucocephala*) is a shrub or small tree native to tropical America and now naturalized throughout India. The young fruits and seeds are edible and leaves and pods are fed to cattle, sheep and goats. It is also grown as shade and cover plant in tea, coffee and rubber plantation. In Chhattisgarh, it is introduced in recent past but the traditional healers of present generation have discovered many important medicinal uses of Subabool. The Psyllid *Heteropsylla cubana* is a common pest of Subabool. Its attack result in complete drying of foliage with stunted growth. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh I have observed that the traditional healers of Chhattisgarh use the full fed insect feeding on Subabool as medicine. The insects are used externally also. I have mentioned in previous articles that the pods and leaves of Subabool is used as promising hair remover externally. The traditional healers informed that the full fed insect also possess similar properties but in effect it is more powerful. Its regular application in form of aqueous paste prevents the growth of new flush of hairs. The traditional healers of Raipur region, boil the full fed insect in Til (Sesame seed) oil and when all watery contents evaporate the boiling is stopped. The special oil is massaged externally on thumbs of legs. This massage is considered as a boon for the patients having poor eye sight. This use is very popular among the traditional healers. Its popularity clearly indicates its efficacy. The full fed insects are also added in popular herbal combination used externally in treatment of Safed Dag (*Leucoderma*). According to the traditional healers, this insect plays an important role in making the combination powerful. The traditional healers are not much aware of its other medicinal uses. They are in process of development of new uses.

These traditional medicinal uses of *Heteropsylla cubana* feeding on Subabool have not been reported in Chhattisgarh. This research article is a first written document on this important aspect.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 276. Bakar Ke Burfi.

Bakar is a local name of *Premna mucronata*. It is a deciduous tree common in many parts of Chhattisgarh. Among the natives it is popular as fuel wood yielding tree. The traditional healers of Chhattisgarh are less aware about its medicinal properties and uses. Baker Ke Burfi is sweet preparation used as medicine. It is considered as promising blood purifier. The patients having the problems related to skin are suggested by the healers to consume the bark of Bakar. To ease its use, Bakar ke Burfi is prepared by using its bark. The traditional healers are in favour of its long term use. Many traditional healers specialized in treatment of different types of cancer are also aware of blood purifying capacity of Bakar bark. They are recommending this sweet dish to the patients.

Material Required: Bakar Bark, Besan (Gram flour), Sugar and Cow ghee.

Method of Preparation: Bakar bark is washed thoroughly in water. After washing, the bark is dried in shade and converted into powder. Besan is taken in pan and with the help of cow ghee roasted well. The powdered bark is added and the combination is roasted further. In this combination, hot sugar syrup is mixed. The thick solution is spread on plates and cut into square pieces. These pieces are known as Bakar Ke Burfi.

For the botany, traditional and reported medicinal uses of Bakar, please read my previous articles.

**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. : 157.
Nimburu Ke Shurbut.**

Nimburu is a local name of *Protium serratum*. Due to the acidic taste of Nimburu, it is named on Lemon (Nimbu locally) fruit. Nimburu is a common tree in Chhattisgarh. In reference literatures, the use of its wood pulp in making wrapping paper is mentioned. The traditional healers of Chhattisgarh are aware of its medicinal properties and uses. Nimburu Ke Shurbut is prepared by using its fruits. This shurbut is not much popular among the natives. They consume its raw fruits. The traditional healers consider this Shurbut beneficial for the digestive system related troubles. The patients are advised by them to take this Shurbut twice a day upto long time. To prepare the Shurbut, the juice is extracted from fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and syrup are mixed and Shurbut is prepared. Once prepared in bulk it is used round the year, by diluting it with water.

For the botany, traditional and reported medicinal uses of Nimburu, please read my previous articles.

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**Traditional medicinal knowledge about Mango Webber *Orthaga exvinacea* Hmps.
(Lepidoptera : Pyralidae) in Chhattisgarh, India.**

According to the reference literatures, the Mango Webber *Orthaga exvinacea* webs up the leaves into clusters. Its moth is grayish with dark patches on the wings. The eggs are laid in small clusters on the silken webbing or singly on ribs of the leaves. The caterpillars are gregarious in the beginning and feed by scraping the leaf surface. They soon make tunnels of this webs within which they remain feeding. The full fed caterpillar is pale green with dark

bands. A webbed up cluster of leaves harbor several caterpillars. Mango is well known fruit tree in Chhattisgarh. Mango Webber is a common insect feeding on this tree. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers use the webbed up cluster of leaves with caterpillars for medicinal purposes. By boiling this cluster in base oil, the healers prepare a special oil. This special oil is used for hair care. According to the traditional healers its regular use not only promotes new hair growth but also helps in checking premature hair fall. As base oil, Til (Sesame seed) oil is used. The healers also add some common herbs like Bhengra (*Eclipta alba*) in this oil, in order to make it more promising. The traditional healers of Kanker region use the cluster having caterpillars in treatment of respiratory trouble. In case of Asthma, the cluster is burned and the patients are advised to inhale the fumes coming from it. It is considered as one of the promising treatments. The traditional healers of Jagdalpur region informed me that the decoction of cluster with caterpillar is applied externally on Bleeding piles in order to stop the bleeding. As other promising alternatives are available, it is used less commonly. From documentation point of view, it is an important information. The full fed caterpillars are preferred. The Mango Webber from improved Mango varieties are not used. I have observed during the survey that very few traditional healers are aware of these uses.

In reference literatures, Mango Webber is not described as medicinal insect. This research article is the first written documentation on the traditional medicinal uses of Mango Webber.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 156.
Bharangi Ke Shurbut.**

Bharangi is a local name of *Pygmaeopremna herbacea*. It is well known herb of medicinal importance in Chhattisgarh. Its roots are used mainly as medicine. Bharangi Ke Shurbut is prepared by using its fruits. This preparation is popular among the traditional healers only. The natives prefer to consume its raw fruits. This Shurbut is considered as a boon for the patients having respiratory troubles. It is given as supplement treatment along with main treatment. It acts as both curative and preventive to Asthma. During the ethnobotanical surveys conducted in different parts of Chhattisgarh I got opportunities to interact with the patients getting relief from this Shurbut. Their encouraging responses motivated me to document the information regarding this Shrubut without any delay. To prepare the Shurbut, the juice is extracted from fruits. In this juice, the sugar is added. The combination is kept under sunlight upto a week. After this duration, the Shurbut is considered ready for use.

For the botany, traditional and reported medicinal uses of Bharangi, please read my previous articles.

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Traditional medicinal knowledge about Mealy bug *Pseudococcus crotonis* Gr. feeding on Anar (*Punica granatum*) in Chhattisgarh, India.

Anar is well known fruit tree in Chhattisgarh. According to the reference literatures, it is a shrub or small tree, native to Iran. Its bark and fruit shells are used for tanning. Anar holds a reputed position as medicinal herb in reference literatures related to different systems of medicine, in India. Its all parts are used as medicine. The natives and traditional healers of Chhattisgarh have rich traditional medicinal knowledge about this herb. The Mealy bug *Pseudococcus crotonis* occurs in large numbers covering the fruits and its stalks. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the

traditional healers use this Mealy bug as medicinal insect. Alone or in combination with medicinal herbs, the bugs are added in popular combinations used to flush out the intestinal worms. In Chhattisgarh, Baibirang (*Embelia ribes*) is used as promising medicinal herb in treatment of Intestinal worms. The traditional healers of Keshkal region informed that Baibirang possess some harmful properties. This is the reason it is always given with other herbs in order to nullify the harmful effect. According to them, the Mealy bug feeding on Anar fruits possess this great property. The bugs are used alone rarely. The full fed bugs are collected and after shade drying converted into powder. This powder is used as medicine. The healers are not in favour of its long term storage. As this insect infests the Anar fruits commonly, the healers get the bugs easily. The traditional healers of Gandai-Salewara informed that in early days the bugs were in use in treatment of dysentery and diarrhea, but this use is not popular these days. The healers have no reason for it. They are not much aware of other medicinal uses of this Mealy bug.

In reference literatures, *Pseudococcus crotonis* is not mentioned as medicinal insect. Through the on-going Ethno-entomological surveys in different parts of Chhattisgarh, I am trying my best to gather more information on this important insect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 275. Launglata Beeja Ke Burfi.

Launglata is a common name of *Quisqualis indica*. It is grown as ornamental shrub in Chhattisgarh. The traditional healers are aware of its less medicinal properties and uses. This exotic herb is present in almost all parts of the Chhattisgarh. Launglata Beeja Ke Burfi is a sweet preparation popular among senior natives and traditional healers. It is prepared by using Launglata seeds. According to the traditional healers, the regular use of this Burfi, flushes out the intestinal worms effectively in very less time. Its miraculous effects have established this herb as promising herb for this trouble among the traditional healers.

Material Required: Launglata seeds, Besan (Gram flour), Sugar and Cow ghee.

Method of Preparation: The seeds are roasted and converted into powder. Besan is roasted in pan with the help of cow ghee. After adding the seed powder in Besan, the combination is roasted further. After roasting, the sugar syrup is added and the thick solution is spread on plates. After cooling, it is cut into square pieces. These square pieces are known as Launglata Beeja Ke Burfi.

For the botany, traditional and reported medicinal uses of Launglata, please read my previous articles.

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Traditional medicinal knowledge about Mango stone Weevil *Sternuchus mangiferae* (Fabricius) [Coleoptera : Chrysomelidae] in Chhattisgarh, India.

According to the Dr. M.R.G.K. Nair's well known book on Entomology titled 'Insects and mites of crops in India', *Sternuchus mangiferae* is found all over the country. The adult is a stoutly-

built, dark brown weevil found inside the stone of the fruit. The eggs are laid just under the rind of ripening fruit. The larva tunnels its way straight into the nut where in it grows feeding on the internal contents. Pupation takes place inside the nut itself. The adults emerging out of the pupae remain inside the nuts till they are thrown away after the consumption of the pulp. Aam (Mango) is well known fruit crops of Chhattisgarh. The attack of stone weevil is common in the state. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have noted that the traditional healers of Chhattisgarh Plains use the stone (Guthli) with insect as medicine. They have specific traditional methods to judge whether the stone is with insect or not. The stone is used separately also as medicine but insects are not collected for separate use. The stones with insect are dried in shade and converted into powder. This powder is added in popular herbal combinations used as sex tonic. According to the traditional healers, the stone powder plays an important role in herbal combinations. The traditional healers of Gariaband region use the stone with insect in treatment of Bavasir (Piles) both internally as well as externally. Internally the powder is given twice a day with lukewarm water. Externally, the powder is applied in form of aqueous paste on affected parts. The healers informed that both internal and external uses at a time cure the trouble effectively in very less time. The traditional healers of Dhamtari region informed that the stone powder is having the capacity to absorb extra heat from human body. This is the reason, they apply the powder on painful boils in order to suppress it. The powder is applied in form of aqueous paste. Alone stone is also used for this purpose but according to the traditional healers of Dhamtari region, the stones having insects are more promising. I have observed during the surveys that many herb vendors collect and sell the stones having insects to the traditional healers of neighbouring states. According to the traditional healers, they are practicing this traditional knowledge since generations. The stones of indigenous varieties are used only.

These traditional medicinal uses have yet not been reported in reference literatures. I am feeling proud to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. : 155.
Van Gulab Ke Shurbut.

Van Gulab is local name of *Rosa macrophylla*. This deciduous shrub is rare in occurrence in Chhattisgarh. Its distribution is specific to higher altitude. According to the natives of this region, this herb has been introduced in recent past. The traditional healers of Chhattisgarh are aware of its less but promising medicinal uses. Van Gulab Ke Shurbut is prepared by using its fruits. In reference literatures, the fruits are described as rich source of Vitamin C. The traditional healers of Chhattisgarh consider it as promising body tonic. They specially recommend this Shurbut to the heart patients. The Shurbut and other similar preparations from other *Rosa* species are also recommended for the same purpose. To prepare the Shurbut, the juice is extracted from the matured fruits. In this juice, the sugar syrup is added. The combination is kept under moonlight upto a week. After this duration, the Shurbut is considered ready for use. Diluted with water, it is used round the year according to the recommendations of the healers.

For the botany, traditional and reported medicinal uses of *Rosa macrophylla*, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 274. Launglata Ke Sag.

Launglata is a local name of *Quisqualis indica*. It is a climbing shrub native to Java and Malaysia. It is grown as ornamental. In Chhattisgarh, it is a herb having less known traditional medicinal uses. Launglata Ke Sag is prepared by using its young shoots. The Sag (Curry) is not much popular among the common natives. The traditional healers recommend it for specific purpose. The patients having digestive system related troubles are suggested to use the shoots twice a day as treatment. The use is continued till complete cure. The healers are not in favour of its long term use. Many healers consider this Sag beneficial to Bavasir (Piles) but as other

promising alternatives are available, it is used less commonly. The traditional healers informed that they have started its use from last two-three generations. It is not an age old use, but they are satisfied with its efficacy.

Material Required: Launglata young shoots, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The young shoots are boiled in water. The pan having oil is kept on fire. The boiled shoots and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooke Rice).

For the botany, traditional and reported medicinal uses of Launglata please read my previous articles.

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Traditional medicinal knowledge about Coffee Green Bug *Coccus viridis* Gr. (Hemiptera : Coccidae) feeding on Mahkua (*Ageratum conyzoides*) in Chhattisgarh, India.

Mahakua (*Ageratum conyzoides*) grows as wasteland weed in Chhattisgarh. The farmers have kept this herb in the category of medicinal weeds. The natives and traditional healers are also aware of its medicinal properties and uses. I have mentioned in previous article that the insects feeding on *Ageratum* are considered as medicinal insect and used in treatment of many common diseases. Coffee Green Bug use *Ageratum* as alternate host. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Northern Chhattisgarh use this insect as medicinal

insect. The full fed bugs are used both internally as well as externally. *Ageratum* leaves are considered as promising styptic. When the traditional healers get injuries during visit to forest, they simply rub the crushed leaves on injured parts. It stops the bleeding effectively. The leaves with bugs are considered more promising. The healers use the leaves with bug in form of decoction to wash the old wounds. Bugs are also used alone. Many traditional healers add the bugs in dry powder form in popular herbal combinations used in treatment of fevers. But as other promising alternatives are available, it is used less commonly. The traditional healers specialized in treatment of Mirgi (Epilepsy) use the bugs externally. The dry bugs are burned and fumes are directed towards the patients. It is considered as one of the promising treatment during attack. The bugs are also used with leaves in same way. The traditional healers are not aware of its other medicinal uses. These traditional uses are limited to Northern parts of Chhattisgarh only. The healers of other regions are not much aware of these uses.

In reference literatures, Coffee Green bug is not mentioned as medicinal insect. This research article is the first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Coffee Green bug *Coccus viridis* Gr. (Hemiptera : Coccidae) feeding on Sahadevi (*Vernonia cinerea*), in Chhattisgarh, India.

According to the reference literatures, this (*Coccus viridis*) green coloured, flat, soft scale is a major pest of Coffee in all the Coffee-growing regions. The scale in all its stages of development infests the leaves and tender shoots. On the leaves they are present on the under surface crowding along the midribs and veins. The infested plants are covered with sooty mould growing superficially on the honey-dew secretions of bug. Sahadevi acts as alternate host to this Green bug. Sahadevi grows as wasteland weed in Chhattisgarh. It is popular among the traditional

healers for its valuable properties and uses. Every year the Green bugs infest this weed heavily. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the traditional healers of Southern Chhattisgarh and Plains frequently use the Green bugs feeding on Sahadevi as medicine in treatment of many common diseases. The bugs are collected and used, with Sahadevi leaves in most of the cases. The bug with leaves in dry powder is given internally as remedy to Bavasir (Piles). It is considered as promising remedy of Bavasir particularly at initial stages of trouble. To hide its identity, the healers give this powder with Gud (Jaggery). In treatment of fever, the bugs with leaves are given in form of decoction. The bugs with leaves are boiled in water. When half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is given to the patients. According to the traditional healers, this decoction increases the perspiration and helps in reducing the high temperature. The traditional healers specialized in treatment of Malarial fever are aware of its internal use in combination with medicinal herbs in treatment. The traditional healers are not aware of its other medicinal uses. As Sahadevi grows as winter season weed, the healers use it in season only. The off-season use is avoided. They have other alternatives as herbs with insects, for other seasons.

These traditional medicinal uses of *Coccus viridis* feeding on *Vernonia* sp. have yet not been reported in reference literatures. This valuable information is coming for the first time among the world community, through this research article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Pea leaf miner *Phytomyza atricornis* Meigen, feeding on *Sonchus oleracea*, in Chhattisgarh, India.

Sonchus oleracea grows as wasteland and crop weed in winter season, in almost all parts of Chhattisgarh. Although it is present in abundance but the traditional healers of Chhattisgarh are not much aware of its medicinal properties and uses. *Sonchus* acts as alternate host for many problematic agricultural pest. *Phytomyza atricornis*, Pea leaf miner is among these pest. Although both *Phytomyza* and *Sonchus* are headache for the farmers but for traditional healers of Chhattisgarh specialized in use of insects as medicine, *Phytomyza* feeding on *Sonchus* is valuable. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh I have observed that the traditional healers specialized in treatment of different types of fever, use the full fed maggots both internally as well as externally. In general, the maggots are used in combination with medicinal herbs in order to increase its efficacy. The traditional healers of Nagri-Sihawa region specialized in treatment of Malaria fever, add the dry maggot powder in the decoction of Kalmegh (*Andrographis paniculata*) herb. The healers informed that the presence of maggots nullifies the harmful effects of Kalmegh. Externally, the maggots are used in treatment of body pain due to fever. The freshly collected maggots are boiled in water and the patients are suggested to wash the body with this decoction. I have mentioned in previous articles that the traditional healers of Southern Chhattisgarh use the Red Ant Chapra (*Oecophylla* sp.) in same way in treatment of fever. Many healers mix the *Phytomyza* maggots with clay soil and prepare an aqueous paste. This paste is applied on patients body many times a day. This application not only reduces the intense body pain but also helps in reducing the high temperature. The traditional healers are not aware of its other medicinal uses.

I have mentioned in previous articles that *Phytomyza* feeding on different hosts are used differently as medicine, by the traditional healers of Chhattisgarh. In different parts of the world, *Phytomyza* species feed on hundreds of herbs. The information on traditional medicinal uses of *Phytomyza* in Chhattisgarh suggests the researches around the world to focus their studies on this new and potential field.

Thank you very much for reading the article.

Traditional medicinal knowledge about Pea leaf miner *Phytomyza atricornis* Meigen. feeding on Senji (*Melilotus indica*) leaves, in Chhattisgarh, India.

Senji (*Melilotus indica*) grows as problematic winter season weed in crop fields of Chhattisgarh. In many parts of Chhattisgarh, many varieties of Senji are under cultivation as fodder crop. In different systems of medicine in India, many medicinal properties and uses of Senji have been reported. In Homoeopathy, it is one of the most frequently used medicine. The traditional healers of Chhattisgarh are also aware of its medicinal uses. The Pea leaf miner *Phytomyza atricornis* uses the Senji herb as alternative host. It is a major pest of pulse crops in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, many traditional healers informed that in early days the medicinal uses of maggots feeding on Senji herb, were in existence in many parts of the state. The traditional healers were using the full fed maggots after purification, in treatment of all types of bleeding, both internally as well as externally. The purification is the process, the traditional healers of present generation is not aware of. This is the reason, according to them, responsible for its less use. It is not its poor efficacy that has made it out of use. When the traditional healers of present generation tried the maggots collected from Senji leaves without purification, they observed its harmful effects. Through the on-going Ethno-entomological surveys, I am trying my best to gather the information from senior traditional healers aware of its purification method. Every year this it infests the Senji heavily. I personally feel that if we can start utilizing the *Phytomyza* feeding on Senji as medicinal insect, this will be the great help for the Chhattisgarh farmers, because they invest much on agrochemicals to manage this insect in crop fields. Unlike other medicinal insects, the traditional healers were using the maggots feeding on Senji, in pure form, without adding medicinal herbs in it.

Although the above mentioned traditional medicinal uses are not in existence in Chhattisgarh but from documentation point of view it is an important information. You will find more details about this medicinal insect in coming articles.

Thank you very much for reading the article.

Traditional medicinal knowledge about Pea leaf miner *Phytomyza atricornis* Meigen. feeding in Asgandh (*Withania somnifera*) leaves, in Chhattisgarh, India.

Asgandh (*Withania somnifera*) is one of the well known medicinal herbs of India. It is popularly known as Indian Ginseng. Its roots are employed for consumption, general weakness and rheumatism. The roots are diuretic and promote urination. The roots and leaves possess antibiotic and antibacterial activity. Asgandh is under cultivation in many parts of India. In Chhattisgarh, its wild occurrence has been reported. Pea leaf miner *Phytomyza atricornis* is polyphagous insect. In many parts of Chhattisgarh, it infests on *Withania* plants. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Bilaspur region use the full fed maggots of Pea leaf miner as medicine. The traditional healers specialised in treatment of cancerous wound use it alone or in combination with medicinal herbs. At initial stages it is applied in form of special oil. To prepare the oil, the freshly collected maggots are boiled in Sarson (Mustard seed) oil and when all watery contents evaporate, the boiling is stopped and oil is used for treatment. In case of old wounds, the full fed maggots are converted into powder after drying, and in combination with medicinal herbs applied on wounds. The traditional healers are aware of its miraculous healing properties. According to them, they are using it as traditional practice since generations. The maggots attack on *Withania* herb rarely and in many years there is no infestation. This is the reason, the healers have developed many techniques to preserve the maggots for long term use. The special oil is stored upto 5 years. But in case of availability, they prepare fresh oil every year. Many healers complained that due to heavy application of Agrochemicals in crop fields particularly where the pulse crops are under cultivation, has altered the medicinal properties of this medicinal insect. The healers of this region have no identification tool to identify the resistant maggots visually. As *Withania* is not present in all parts of Chhattisgarh, the traditional healers of other regions are not much aware of these uses.

In reference literatures, these traditional medicinal uses of *Phytomyza atricornis* have not been mentioned. I am feeling proud to document this important traditional medicinal knowledge.

Herbal dishes of Chhattisgarh, India. 273. Chiriya Phool Ke Sag.

Chiriya phool is a local name of *Sporobolus diander*. It is a common grassy weed in Chhattisgarh. According to the reference literatures, it is annual or perennial, 30-90 cm high grass with densely tufted leaves, pyramidal panicles and oblong chestnut brown grain. It grows in moist gravel during rains. It is highly relished fodder. In Chhattisgarh, it is a well known grass. The traditional healers are aware of its medicinal properties and uses. Chiriya phool Ke Sag is prepared by using its panicle. As Sag (Curry) it is in use among poor natives but it is least preferred. The traditional healers recommend this Sag for specific purpose. This Sag is considered beneficial for the patients having Malarial fever. The use is recommended till complete cure only. Its long term use is not recommended.

Material Required: Chiriya phool panicles, Hardi (Turmeric), Tel (Oil), Namak (Salt), Sarson Tel (Mustard oil) etc.

Method of Preparation: The pan having oil is kept on fire. Chiriya phool panicles and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the detailed botany, traditional and reported medicinal uses of *Sporobolus diander* please read my previous articles.

Herbal dishes of Chhattisgarh, India. 272. Akarkara Ke Sag.

Akarkara is a local name of *Spilanthes acmella*. The natural forests of Chhattisgarh are rich in natural population of this herb. In many parts of Chhattisgarh, it grows as crop as well as wasteland weed. In reference literatures related to different systems of medicine, Akarkara holds a reputed position. It is a popular herbal remedy for dental troubles. Akarkara ke Sag (Curry) is prepared by using its whole herb (except root). This Sag is prepared for specific purpose. According to the traditional healers of Southern Chhattisgarh, frequently recommending this Sag, it is a boon for the patients having urinary system related troubles. Its regular use upto long time flushes out the Pathri (Renal Calculi). This Sag is not much popular among the common natives. In previous articles, I have mentioned that in Southern Chhattisgarh white flowered (rare) species of Akarkara grows naturally. The healers consider Sag of this Akarkara more promising than the Sag prepared from common yellow flowered Akarkara.

Material Required: Akarkara whole herb, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The whole herb is boiled in water and cut into small pieces. The Pan having oil is kept on fire. These small pieces with all ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Akarkara, please read my previous articles.

**Traditional medicinal knowledge about Pea leaf miner *Phytomyza atricornis* Gour.
(Diptera : Agromyzidae) feeding on Bathua (*Chenopodium album*) leaves, in
Chhattisgarh, India.**

According to the reference literatures, Pea leaf miner *Phytomyza atricornis* is a polyphagous insect. It commonly attacks the pulses like Pea, gram, soybean and black-gram. It is also a problematic pest of potato. The maggot mines the leaves feeding on the mesophyll and pupates within the larval mines. The adult punctures the leaf and feeds on the exuding sap. In Chhattisgarh, this insect infests Bathua (*Chenopodium album*) leaves also. Bathua grows as crop weed in winter season. The natives and traditional healers use Bathua as medicinal weed. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Chhattisgarh Plains and Northern hilly regions use the full fed maggots both internally as well as externally as medicine in treatment of many common troubles. Externally the freshly collected full fed maggots are used. In combination with cow urine, the traditional healers prepare an aqueous paste. This paste is applied externally on affected parts as a medicine of Safed Dag (Leucoderma). The leaves of Bathua are also used for the same purpose but according to the traditional healers the use of maggots feeding on Bathua leaves gives more promising results. The maggots are used in form of dry powder in treatment of spleen related troubles. In general, the healers use it in combination with medicinal herbs. The healers informed that maggots play an important role in this herbal combination. The healers further informed that the infestation of Pea leaf miner on Bathua is not very common in Chhattisgarh. This limited infestation has made the maggots precious among the healers. The healers aware of its miraculous effects many times give good price to the herb collectors. I have observed during the surveys that many herb vendors, aware of medicinal uses of maggots, collect and sell it to the healers of neighbouring states. As the problem of Leucoderma is increasing in Chhattisgarh, the demand of maggots feeding on Bathua leaves are also increasing. The Pea leaf miner maggots feeding on different hosts are not used for this purpose. Very few traditional healers of Chhattisgarh are aware of this unique use. This observation motivated me to document this important information without any delay.

In reference literatures, Pea leaf miner is mentioned as problematic pest. Every year tons of agrochemicals are used to manage this problematic pest in crop fields. The unique traditional medicinal uses of this problematic pest will be of great help for the researchers engaged in research on insect utilization.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Dereodos mastos* Hbst (Curculionidae : Coleoptera) feeding on *Manilkara achras* leaves, in Chhattisgarh, India.

Chiku (*Manilkara achras*) is an evergreen tree, native to tropical America and is now under cultivation as fruit crop in almost all parts of India. The milky juice known as Chicle is used in the manufacture of chewing gum. Chiku is well known plant in Chhattisgarh. Many fruits growers are cultivating it in Chhattisgarh Plains. A curculionid weevil *Dereodos mastos* feeds on Chiku leaves. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Durg region use the grubs of this insect, feeding on Chiku leaves as medicine. The grubs are used externally. In combination with medicinal herbs, the traditional healers prepare an aqueous paste by using freshly collected grubs. This aqueous paste is used as pain killer. The paste is used for various purpose. In treatment of headache, the paste is applied externally on painful parts and after drying, it is washed. The application is continued till complete cure. In this combination, *Blumea lacera* and *Eclipta* leaves are added as herbal component. The paste is also applied on painful boils in order to suppress it and also to reduce the intense pain. Many healers suggest the patients having the problem of Piles (*Bavasir*) to apply the paste externally on affected parts. Its application checks the bleeding effectively in very less time. The traditional healers are not aware of its internal uses. This information on its internal uses is limited to very few senior healers. The healers of other regions of Chhattisgarh are not aware of these traditional medicinal uses.

In reference literatures, the name of *Dereodos mastos* is not mentioned as medicinal insect. The information on its traditional medicinal uses are coming among the world community for the first time through this article.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about Tortoise beetle *Silana farinosa* (Boheman)
[Cassidinae : Coleoptera] feeding on *Murraya koenigii* leaves, in Chhattisgarh, India.**

Kadhi Patta (*Murraya koenigii* syn. *Bergera koenigii*) is a large shrub or small tree and it is under cultivation in many parts of India. Its leaves are popularly used for flavoring curries. In Chhattisgarh, it is planted in home gardens. The natives and traditional healers are aware of its many medicinal properties and uses. In reference literatures related to different systems of medicine in India, *Murraya* holds a reputed position as medicinal herb. In many parts of Chhattisgarh particularly in Southern region, the Tortoise beetle *Silana farinosa* feeds on *Murraya* plant. Its infestation not causes much damage to the plant as in other parts of India. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers specialized in treatment of Mirgi (Epilepsy) use the grub and adult of this beetle in treatment. They collect the grubs and adults and dry it in shade. After drying, the powder is prepared and stored for future use. Only full fed grubs and adults are used. In case of attack, the powder is burnt and patients are suggested to inhale the fumes. It is considered as one of the promising first aid measures. The healers boil the freshly collected grubs and adults in base oil with medicinal herbs and when all watery contents evaporate the boiling is stopped and special oil is used externally. The special oil is massaged on soles. It is considered as promising supplement treatment with main treatment of Mirgi. As base oil, Til (Sesame seed) oil is used. According to the traditional healers, the grubs and beetles play an important role in making the special oil medicinally rich. In general, the grubs and adults are mixed in equal proportion but grubs are more preferred by the healers as compared to the beetles. The traditional healers are not aware of its other medicinal uses. I have observed during the surveys that this specific use is now limited to few traditional healers. The other

insect species feeding on *Murraya* are also used as medicine but the healers consider these species less effective in treatment of Mirgi.

In reference literatures, *Silana farinosa* is not mentioned as medicinal insect. The traditional medicinal uses of *Silana farinosa* feeding on *Murraya* leaves have also not been reported.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 271. Kariyar Van Gobhi Ke Sag.

Kariyar Van Gobhi is a local name of *Scorzonera hispanica*. It grows as wasteland herb in Chhattisgarh. In many parts of India, it is under cultivation as vegetable. Its roots are used as vegetable whereas leaves for salads. The natives of Chhattisgarh use the leaves to prepare Sag (Curry). This sag is very popular among them. They consume it for its specific taste. The traditional healers are aware of its health benefits. This Sag is considered as promising tonic. The patients recovering from exhaustive diseases are suggested by the healers to never miss the chance of its consumption during growing season. Many healers consider its consumption useful in treatment of Bavasir (Piles).

Material Required: Kariyar Van Gobhi leaves, Namak (Salt), Lason (Garlic), Haldi (Turmeric), Masale (Spices), Tel (Oil) etc.

Method of Preparation: The pan having oil is kept on fire. The leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Scorzonera* please read my previous articles.

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Traditional medicinal knowledge about *Latoia lepida* Cram. (Lepidoptera : Limacodidae) feeding on Neem (*Azadirachta indica*) leaves, in Chhattisgarh, India.

Neem (*Azadirachta indica*) is a well known tree of religious and medicinal importance in Chhattisgarh. It is a common roadside tree bearing white and sweet scented flowers. The tree is considered a good air purifier, due to its large leaf area. It is native to Myanmar but grown all over India. The natives and traditional healers of Chhattisgarh have in depth traditional knowledge about different uses of its plant parts. Although Neem plant parts are used as promising tool to manage the problem of insect pest in organic farming but nature has made many enemies of Neem trees. The slug caterpillars *Latoia lepida* is among these enemies. This caterpillars feed on Neem leaves. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh. I have observed that the senior natives and traditional healers of many parts of Chhattisgarh use the full fed caterpillars as veterinary medicine. The caterpillars are given to the sick cattle both internally as well as externally. Externally, the decoction is in use. The cattle are washed in rainy days with the help of this decoction in order to protect them from infectious diseases. It is also applied in injured parts and cuts in order to stop further spread of infection. The healers consider it more promising than the Neem leaves on which the caterpillars feeds. In treatment of septic fever, the caterpillars are used in dry powder form. It is added in popular herbal combinations internally. The traditional healers informed that the caterpillar can also be used for human diseases but as other promising alternatives are

available, it is used less commonly. The senior healers of Chhattisgarh Plains tried to explain that Neem is for human beings and caterpillars feed on it are for cattle. According to them, they are using the caterpillars since generations as veterinary medicine. They are not aware of its other medicinal uses.

In reference literatures, the traditional medicinal uses of *Latoia lepida* feeding on Neem leaves have not been reported. The present article is a first written document on this important aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different shurbuts in Chhattisgarh, India. 154. Sugandhi Ke Shurbut.

Sugandhi is a local name of *Scolopia crenata*. Due to the presence of an aromatic oil in its seeds, the natives have named it as Sugandhi (Aromatic). It is a deciduous tree present in Southern parts of Chhattisgarh specifically in the regions near to Andhra Pradesh border. It is well known among the natives for its Timber. The traditional healers of this region are aware of its many medicinal properties and uses. Sugandhi Ke Shurbut is prepared by using its fruits. This preparation is popular among the traditional healers. According to them, its regular use flushes out the intestinal worms effectively in very less time. The natives consume its fresh fruits. They are not much aware of its Shurbut. To prepare the Shurbut, the juice is extracted by crushing the fruits. In this juice, hot sugar syrup (Chashni) is added. The combination is kept in sunlight upto a week. After this duration the Shurbut is considered ready for use. The traditional

healers are not in favour of its long term use. They use it as medicine, although it is delicious in taste. Its use is avoided during pregnancy.

For the botany, traditional and reported medicinal uses of Sugandhi, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India.153.Gogine Ke Shurbut.

Gogina is Hindi name of *Saurauia nepaulensis*. It is a tree introduced in Chhattisgarh for ornamental purpose. For the first time I got information regarding Gogina Ke Shurbut from the herb vendors coming from neighbouring states particularly from Northern India. They prepare and sell this Shurbut to the traditional healers of Chhattisgarh. In early days, when this species was not present in Chhattisgarh, the healers were dependent on the herb vendors. Now, they are using the fruits of this ornamental species planted in Chhattisgarh. According to the traditional healers, the internal use of Gogina fruits in any form, helps in developing the natural resistance inside the human body. This important property has made fruits very popular among the traditional healers. For the off-season use of fruits, Shurbut is prepared. To prepare the Shurbut, the juice is extracted from fruits. In juice, hot sugar syrup is added. The combination is kept in moonlight upto a week. After this period, the Shurbut is considered ready for use.

For the botany, traditional and reported medicinal uses of Gogina, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 152. Pilu Ke Shurbut.

Pilu is a local name of *Salvadora oleoides*. Although the reference literatures on flora do not support its natural occurrence in Chhattisgarh but the traditional healers of the state are not only aware of its presence in wild but also they are using it in treatment of many common diseases. According to the reference literatures, Pilu is a shrub or small tree with short twisted trunk and drooping branches. Its leaves are used as medicine. It is given to the horses as purgative. The seed cake or meal is reported to be valuable manure for tobacco. Pilu Ke Shurbut is prepared by using its fruits. The traditional healers of Chhattisgarh Plains prepare and recommend this shurbut. It is considered as a boon for the patients having respiratory troubles. This shurbut is not much popular among the natives. They prefer its fresh fruits. To prepare the shurbut, the juice is extracted from fruits. In this juice, hot sugar syrup is added and shurbut is prepared. Diluted with water, it is used round the year.

For the botany, traditional and reported medicinal uses of Pilu, please read my previous articles.

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Traditional medicinal knowledge about *Latoia lepida* Cram. (Lepidoptera : Limacodidae) feeding on Ama (Mango) leaves in Chhattisgarh, India.

Ama (mango) is one of the major fruit crops of India. It is also a tree of religious and medicinal importance. Its fruits are edible. All parts of Ama are used for different purposes. Its Kernel is used for preparing products such as flour, starch, pickle and as cattle-feed. The leaves are strung in Hindu religious ceremonies. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about Ama. Many insects infest this tree. According to the reference literatures, *Latoia lepida* is one of the serious pest of Ama crop. The caterpillar feeds on the leaves. I have mentioned about traditional medicinal uses of *Latoia lepida* feeding on *Ixora* herb in previous articles. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, in recent past, I have observed that the traditional healers of Gariaband region use the full fed caterpillars of *Latoia lepida* as medicine. Among different varieties of Ama (Mango), the caterpillars feeding of indigenous varieties are preferred by the caterpillars. The caterpillars are not collected from orchards. The Ama tree growing in isolation in wild is searched for the caterpillars. The healers have no scientific explanation regarding these precautions but as traditional practice, they follow it sincerely. I am trying my best to search the science behind it. The full fed caterpillars are used after drying, in treatment of Mirgi (Epilepsy). The dried caterpillars are burned and the patients are suggested to inhale the fumes. As many other promising alternatives are available, it is used less frequently for this purpose. During interaction, the traditional healers informed that the caterpillars are good purifier. When I asked about the method, the healers replied just swallow three-four caterpillars daily. If it not suits you, they further informed, prepare 'Bhajia' by mixing the caterpillars with aqueous solution of Besan (Gram flour), and in shape of globules fry it with the help of Tel (Oil). The traditional healers of this region suggest the patients having gynaecological troubles to never miss the chance of its use during availability season. For this purpose, only freshly collected caterpillars are used. Old or stored caterpillars are not used. The healers informed that their seniors were aware of many promising uses of caterpillars but unfortunately this traditional knowledge is not with us now.

The traditional medicinal uses of *Latoia lepida* feeding on Ama leaves have yet not been reported in reference literatures. This information is coming among the world community for the first time through this article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Safflower Aphid *Uroleucon compositae* (Theobald) [Aphididae : Hemiptera] feeding on *Euphorbia geniculata*, in Chhattisgarh, India.

Uroleucon compositae is one of the major pest of Safflower crop in Chhattisgarh. According to the reference literatures, it can cause upto 35 percent of loss of crop. It completes its life cycle in 11-16 days. The adult Aphid is having a life span of 17 days. A female produces 6-56 young ones with on average of 21. The Aphid is active from December to April. Many weed species act as alternate host to this Aphid. Duddhi grows as field and wasteland weed in Chhattisgarh. The natives and traditional healers are aware of its medicinal properties and uses. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Bagbahera region use the Aphids feeding on *Euphorbia geniculata* as medicine. The full fed Aphids are used in many ways. In treatment of constipation, the traditional healers use Aphid in form of food preparation. With the help of cow ghee, the Aphid are roasted well and added in common curries. According to the traditional healers the internal use of curry having roasted Aphids cures the trouble of constipation effectively in very less time. As many natives hesitate to add the Aphid in curry, the healers give them the Aphids after more roasting as medicine without informing about its source. They further informed that in early days the senior traditional healers were preparing different dishes from Aphid for the same purpose but these dishes are not in use these days. In treatment of respiratory troubles, the Aphids are used in form of oil. The full fed Aphids are boiled in base oil. When all watery contents evaporate the boiling is stopped and special oil is kept for future use. As base oil, Sarson (Mustard seed) oil is used. The special oil is used externally. It is applied externally on chest during the acute attack. Most of the healers use this oil as supplement treatment to main treatment. As main treatment herbal combinations are used. The traditional healers of Bagbahera region are not aware of its other medicinal uses. The traditional healers of other regions of Chhattisgarh are not much aware of medicinal uses of Safflower Aphid.

It is a matter of surprise that the traditional healers of Bagbahera region are not aware of medicinal uses of *Uroleucon compositae* feeding on Safflower herb. In reference literatures, this insect is not mentioned as medicinal insect. This research article is a first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 270. Pet Ke Bemari bar Sag.

Pet Ke Bemari means the diseases related to stomach and digestive system, locally. This preparation is popular among the traditional healers of Amarkantak and surrounding regions. This Sag (Curry) is prepared by using the leaves of an evergreen shrub *Saprosma ternatum*. It is not a common shrub present in Chhattisgarh. Its distribution is limited to hilly regions. The traditional healers are not much aware of its medicinal properties and uses. In reference literatures the uses of its leaves in treatment of flatulence and stomachache have been mentioned. Instead of using raw leaves the traditional healers, prefer its use in form of Sag. This preparation is not popular among the natives. The use of curry is recommended till the cure only. This limited and specific uses have made this preparation as a thing of past. This observation motivated me to document the information regarding this Sag without any delay.

Material Required: Saproosma leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Saproosma leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Saproosma, please read my previous article.

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Traditional medicinal knowledge about Slug caterpillar *Latoia lepida* Cram (Lepidoptera : Limacodidae) feeding on *Ixora coccinea*, in Chhattisgarh, India.

Rookmini or Jungle flame *Ixora* (*Ixora coccinea*) is popularly grown as hedge plant for its deep-red attractive flowers. In reference literatures, related to different systems of medicine in India, many valuable medicinal properties and uses of *Ixora* have been mentioned, *Ixora* is present as wild as well as garden plant in Chhattisgarh. The traditional healers use its all parts as medicine in treatment of many common diseases. The Slug caterpillar *Latoia lepida* is a polyphagous insect. The Slug caterpillar feeding on different hosts are used as medicinal insect for different purposes by the traditional healers of Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have noted that the Slug caterpillars feeding on *Tamarindus indica*, *Mangifera indica*, *Ixora coccinea* and *Azadirachta indica* are used more commonly as medicine. The caterpillars feeding on *Ixora coccinea* is used specially in treatment of gynaecological troubles. The traditional healers of Chhattisgarh Plains use it more commonly as compared to the healers of other region. The Slug caterpillars collected from leaves and flowers are collected separately. The caterpillars feeding on leaves are used in treatment of Metrorrhagia. According to the traditional healers, the dry caterpillars powder gives good results but in combination with medicinal herbs, it works in more promising way. They dry

powder is added in small amount. The herbs present in surroundings of *Ixora* in wild having the capacity to suppress the growth of *Ixora* are added in formulations in order to eliminate the harmful effects of caterpillar powder. The caterpillars feeding on *Ixora* flowers are used in treatment of Safed Pani (Leucorrhoea), another common gynaecological trouble. The shade dried caterpillars are mixed in popular herbal combinations used internally in treatment of Leucorrhoea. Externally, the healers use the decoction of freshly collected caterpillars. The patients are advised to wash the genitals with this decoction. According to the traditional healers both internal as well as external uses cure the trouble effectively in very less time. The traditional healers are not aware of its other medicinal uses.

The above mentioned traditional medicinal uses of Slug caterpillar *Latoia lepida* feeding on *Ixora coccinea* have not been reported in reference literatures. You will find details regarding traditional medicinal uses for slug caterpillars feeding on other hosts, in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about *Spodoptera exigua* (Hubner) [Lepidoptera : Noctuidae] caterpillars feeding on Desi Gulab (*Rosa damascena*) in Chhattisgarh, India.

Desi Gulab (*Rosa damascena*) is an indigenous species of Rose cultivated for its essential oil and valuable medicinal properties. As essential oil "Otto of roses" or 'Oil of roses', obtained from petals, is used in perfumery. Other rose products are rose water, attar, Gulkand and pankhuri. Desi Gulab holds a reputed position as medicine, in different systems of medicine in India. The traditional healers of Chhattisgarh are also well aware of medicinal properties and uses of Desi Gulab. Many insect species attack Desi Gulab. *Spodoptera exigua* is one of these insect

species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Southern Chhattisgarh use the *Spodoptera exigua* caterpillars feeding on Desi Gulab leaves and flower buds as medicine. The traditional healers informed that the caterpillars feeding on leaves and flower buds possess different medicinal properties. They use the caterpillars feeding on leaves externally in form of poultice, in treatment of pain. The full fed caterpillars are also used in combination with medicinal herbs, for the same purpose. It is added in form of dry powder in popular herbal combinations used externally in treatment of common headache. According to the traditional healers, the caterpillar powder plays very important role in reducing the pain. The caterpillars feeding on flower buds are used as styptic. According to the healers, its internal use alone or in combination with other herbs, checks all types of bleeding effectively in very less time. The traditional healers of Bastar region add the caterpillar powder in popular herbal combinations used as heart tonic. The traditional healers of other parts of Chhattisgarh are not much aware of these traditional medicinal uses.

As Desi Gulab is under cultivation in many parts of India, I am trying my best to gather information regarding the traditional knowledge about this insect present in these parts. In reference literatures, *Spodoptera exigua* is not mentioned as medicinal insect. I have mentioned in previous articles, that the traditional healers of Chhattisgarh use other species of *Spodoptera* as traditional medicine. In general, *Spodoptera* is considered as problematic pest. I am confident that the important information on traditional medicinal uses of this insect will be of great help for the research around the world engaged in management of this insect.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common Shurbuts in Chhattisgarh, India. 151.
Bendra Phal ke Shurbut.**

Bendra Phal is a local name of *Tetrastigma canarensis*, The red berries of this herb is eaten by Monkeys (Locally Bendra). In Chhattisgarh, this ornamental climber is present in isolated patches. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have seen its dense population in Northern hilly regions. The traditional healers of this region are aware of its many medicinal uses and properties. Bendra Phal Ke Shurbut is prepared by using its red berries. The traditional healers of this region informed that they have got the information about the medicinal uses of red berries through observing the monkeys. According to them, after child birth, the monkeys never miss to consume these red berries. The traditional healers tried the red berries for the same purpose and got good results. For off-season use, they prepare its Shurbut. Unfortunately the monkeys are not aware of its off-season use. To prepare the Shurbut, the juice is extracted from red berries. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The fruit juice and syrup are mixed and Shurbut is prepared. Diluted with water it is used round the year.

For the botany, traditional and reported medicinal uses of *Tetrastigma canarensis*, please read my previous articles.

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Traditional medicinal knowledge about Eriophyid mite *Aceria jasminae* Channa feeding on Jasmine, in Chhattisgarh, India.

According to the reference literatures, Jasmine (*Jasminum officinale*) is a diffuse or climbing shrub, native to N. W. Himalayas and Persia and is grown in many parts of India. The oil obtained from flowers, is used in preparation of hair-oils and attars. The garlands made of white, fragrant flowers are used as hair ornaments by women. In Chhattisgarh, Jasmine is a well known ornamental herb. For the traditional healers, it is a valuable medicinal herb. They use all parts of Jasmine as medicine in treatment of many common diseases. Eriophyid mite *Aceria jasminae* (Acarina : Eriophyidae) is a problematic pest of Jasmine. It produces white felt like hairy outgrowths on the leaf surface, tender stems and buds. As a result, the growth of plant stunts and production of the flower suppresses to the great extent. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the

traditional healers specialized in treatment of Mirgi (Epilepsy) use the full fed mite both internally as well as externally as medicine. Externally, the mites are used alone. The dried mites are burned and patients are advised to inhale the fumes. It is one of the emergency remedies the traditional healers use during attack. In normal days, the patients are suggested by the healers to inhale the fumes many times in a week, in order to delay the further attack. Internally, the dried mites are used in combination with medicinal herbs. According to the traditional healers, the nature of this mite is hot but when it feeds on Jasmine, it becomes cool medicine. This is the reason, the traditional healers always use the full fed mites. The dried mites are also added as important ingredients in popular herbal combinations used in treatment of nervous system related troubles. The traditional healers of Chhattisgarh Plains prepare a special oil by boiling freshly collected mites in Til (Sesame seed) oil. This special oil is considered as a boon for the patients having the problem of Insomnia. The oil is massaged in soles as treatment. I have observed during the surveys, that very few traditional healers are aware of these uses.

In reference literatures, *Aceria jasminae* is not mentioned as medicinal mite. The traditional medicinal uses about this mite are coming in for the first time among the world community through this article.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 269. Dwai Ke Hardi Bhat.

Dwai Ke Hardi Bhat is herbal preparation, popular among the traditional healers of Chhattisgarh, particularly in Northern hilly regions. Dwai Ke Hardi Bhat is prepared by Turmeric (Hardi) and Bhat (Cooked grain of *Sacciolepis interrupta*). This preparation is considered as a boon for the patients having troubles related to respiratory system. It is used as curative as well as preventive to Asthma. In this preparation, the grains of *Sacciolepis interrupta* play important

role. According to the reference literatures, it is a large perennial grass that grows in damp places. It is considered as good fodder grass. In Chhattisgarh, although it is common grass but very few healers are aware of its medicinal properties and uses.

Material Required: Hardi (Turmeric), Sacciolepis grains, and Namak (Salt)

Method of Preparation: The Sacciolepis grain are cooked by adopting conventional method of rice cooking. In cooked grains, Hardi powder and Namak are added and served hot. In general, it is taken once in a day upto long time but traditional healers decide the specific doses for the different patients.

For the botany, traditional and reported medicinal uses of Hardi and Sacciolepis interrupta, please read my previous articles.

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Traditional medicinal knowledge about *Bruchus bilineatoptygus* Pic. (Coleoptera : Bruchidae) feeding on *Albizia lebbeck* seeds, in Chhattisgarh, India.

According to the reference literatures, Siris (*Albizia lebbeck*) is a common roadside tree, suitable for avenue planting, wind-breaks and shelter belts. It is grown for shade in tea and coffee plantations. The fallen leaves make good manure. The wood is decorative and excellent for high class furniture. Siris or Sirsa is well known tree of medicinal importance in Chhattisgarh. The natives and traditional healers use all parts of Siris as medicine. Many species of insect attack on Siris tree. *Bruchus bilineatoptygus* is a common storage pest that feeds on Siris seeds. I have mentioned in previous articles that the traditional healers of Chhattisgarh have in depth traditional knowledge about insects that damage the plant parts during storage condition. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Chhattisgarh Plains use the grubs of this

insect feeding on Siris seeds as medicine. In order to collect the grubs, the healers collect the seeds and provide favourable condition for the attack of grubs. The full fed grubs are collected. Many healers collect and use the excreta of grubs also as medicine. The grubs are used in combination with medicinal herbs in order to wash the wounds. The traditional healers specialized in treatment of Gonorrhoea suggest the patients to wash the genital with this decoction. The patients having the problem of Leucorrhoea are also advised by them to use the decoction in same way. For off-season use, the full fed grubs are killed and dried in shade. After drying, the grubs are converted into powder and stored for future use. One year old grub powder can be used without any problem-the healers informed. As the grubs are available easily, the healers prefer the fresh powder or grubs. The excreta of grubs is used in combination with soil, in form of paste in treatment of Ringworm. The paste is applied externally on affected parts. As other promising alternatives are available, this use is not much popular among the traditional healers. The healers are practising these uses as traditional knowledge. In general, they do not inform the patients about the addition of grubs in formulations.

The above mentioned traditional medicinal uses have not been reported in reference literatures. Many species of *Bruchus* occur naturally in Chhattisgarh. Almost all the species are used for medicinal purposes. According to the traditional healers, the herbs or herb parts on which these beetles feed, play important roles in making it medicinally rich.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 265. Nirbisi ke Sag.

In the name of Nirbisi many herbs are present in Chhattisgarh. For Sag (Curry) *Typhonium trilobatum*, locally known as Nirbisi, is used. It is tuberous perennial common in many parts. In many parts of India, it is under cultivation also. Its Sag is prepared by using its tubers. As the roots are very acrid, the natives use it after specific treatment. This Sag is very popular among them particularly among the poor natives. According to the traditional healers, the regular use of

this Sag is a boon for the patients having the problem of Bavasir (Piles). Many natives are also aware of its health benefits. In different parts of Chhattisgarh it is prepared by using different methods.

Material Required: Nirbisi tubers, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The tubers are roasted in fire. After roasting the tubers are boiled in water and cut into small pieces. Oil is taken in pan and pan is kept on fire. Nirbisi tuber pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Nirbisi, please ready my previous articles.

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Traditional medicinal knowledge about Bark borer Indarbela tetraonis Moore (Arbelidae : Lepidoptera) feeding on Litchi bark, in Chhattisgarh, India.

Litchi (*Litchi chinensis*) is a small tree, native to China and is now cultivated in many parts of India. In Chhattisgarh, the researchers have found the Northern hilly regions of the state, suitable for its commercial cultivation. The edible portion of Litchi fruit is aril covering dark brown seed. The aril is white, fleshy, juicy with fine flavour and is generally eaten fresh and also canned in syrup. In Chhattisgarh conditions many insects attack on Litchi trees. *Indarbela tetraonis* is among these insects. In the year 1994, when I was at Ajirma farm, Z.A.R.S.,

Ambikapur, for the first time, I noticed that the traditional healers of this region collect and use the full fed caterpillars that feed on the bark under a covering of silk and wood fragments, as medicine. Later, I got confirmation through extensive Ethno-entomological surveys in recent past. In the recent surveys, I have observed that very few traditional healers are aware of its medicinal uses. They informed that in early days they were dependent on the herb vendors coming from neighbouring state, where Litchi was under cultivation, but the promotion of Litchi cultivation in their region, has helped them lot in getting the larva easily. In Litchi project, the researchers were planting different varieties of Litchi collected from different parts of India, in the year 1994. I have observed that the healers were selecting the Bark borer feeding on specific varieties, not on all the varieties. When I asked the healers about it, they replied that they are not aware of varieties. They are selecting the borers from the potential plants. They do not disclosed the secret of identification of potential parts. Many species of *Indarbela* attack an different tree species but the healers of this region are aware of medicinal uses of Litchi borers only. The traditional healers use the full fed caterpillars both internally as well as externally in treatment of Sujak (Gonorrhoea). They boil the caterpillars with the remains of galleries and prepare a decoction. This decoction is used to wash the genitals many times a day. The full fed caterpillars in dry form is used in combination with medicinal herbs, internally for the treatment of Gonorrhoea. According to the traditional healers, both internal as well as external uses cure the trouble effectively in very less time. The healers have deep faith in this traditional knowledge. They do not use Litchi plant parts as medicine. The healers of young generation are also aware of this use but they use it less commonly. According to them, the judicious use of caterpillars is required as overdose can cause many problems. They prefer herbal alternatives for it. The traditional healers are not aware of its other medicinal uses. This specific use and poor response of young healers, are making this use as a thing of past. This observation motivated me to document this important information without any delay.

These traditional medicinal uses of *Indarbela tetraonis* feeding on Litchi have yet not been reported reference literatures. As Litchi is under cultivation in many parts of the world and the attack of this insect is also very common, I am confident that this information will be of great use for the researchers of these regions.

Thank you very much for reading the article.

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Increasing interest of multinationals in medicinal herbs and insects of Chhattisgarh, India. : My observations and experiences.

Few weeks back when a representative of reputed multinational company approached me with request that they are very much impressed about the traditional knowledge about the common insects, the traditional healers of Chhattisgarh is having and want to develop some commercial drugs from these medicinal insects. I humbly replied to him that I am not the right person for contact, talk to the state authorities. He replied that they are not interested in long official procedures and as I have searched the information and documented it in form of research articles, obviously I know better than the traditional healers-he added. During these correspondences, I got opportunity to attend a meeting where many researchers were present from my country, I raised this matter among them and asked about how to tackle this problem. One of the senior researches appreciated my effort and thanked for raising this matter in meeting. We discussed that without the permission of state or national authorities, the material in any form must not be given to anyone. The researcher asked me about the query I have received from multinational with request to provide the copy of correspondence. After meeting, I came back to my hometown. One day I got a phone call from the forest region, that many persons are searching the medicinal insects in particular areas. Next day I visited to the region and thanked the school teacher for calling. I saw many persons still engaged in search. Many of them recognized me and requested to help them in search. You will be surprised to know that these persons were from same company. I was unable to stop them as they were having the permission letter signed by that gentle man, who met me in meeting, stating that these insects are under collection for academic and research purposes. The matters of Intellectual Property Right and Indigenous knowledge are so complicated that it is very difficult to aware and convince the common people about it and the so called educated persons are taking advantage from this ignorance. Most of the researchers in this field claim that they are working for the traditional people and trying their best to protect the valuable traditional knowledge but in fact very few are following it. This is not good sign. At various meetings and workshops, I always give emphasis on the issues related to the traditional people. When we researchers and planners sit together in air conditional conference room, we forget the ground realities. We never invite the healers to know their opinions on policies, we are making for them. One of my friends, aware of my on-going documentation work, always suggest me to write about these bare facts and inform the common people particularly the traditional people that how they are cheated by the educated communities. I have written a lot on this aspect in my previous articles and I will continue writing on the aspect but in present article I want to share some of my ideas with the world community for the real welfare of the tribal people. I am aware that it is not

possible through the individual effort but I am trying my best to form a foundation for the traditional healers. The queries regarding Chhattisgarh herbs and insects and about its uses, I am receiving daily through hundreds of e-mails can be converted into some returns that can be utilized for the welfare of traditional healers. I have experienced that in general, the authorities ignore any work till there is no fund but when any one starts receiving funds, the problem arises. I am capable of arranging much fund for the traditional healers foundation but the greatest fear in the tension which will result when many unwanted people want to 'share' it, the common problem in the world. Because of this fear, I have never taken any fund or financial assistance for the Society for Parthenium Management (SOPAM), and we are running this society from our expenses. Last week Dr. Yogesh from National Innovation Foundation, Ahmedabad suggested me to create a bank account for the traditional healers, and whatever you are earning (?) from documentation work give fifty percent of it to the traditional healers. As you know, the on-going documentation work is in progress without any financial help. But the creation of bank account is good proposal. From very long time I am requesting the authorities to honour the traditional healers even at lowest expenses but not getting success. Through this bank account, I can start honoring the healers although through slow process. When I put this proposal among the forester friends, many of them asked who have given you the rights to represent the traditional healers. This is true question, but I am unaware that from where I can get these rights. They also have no answer. For different groups of natives, we have different leaders in our country but most of them are politically active. I am not interested in politics. One comment is that let the traditional healers select their representative but in fact, all the traditional healers are not in any forum. They are practicing their knowledge in isolation and even they have no communication with the healers of neighbouring regions. The first step required is to provide them a platform from where they can talk about their rights. I am eager to provide this platform. Many friends suggested me to wait for right time. Let the world recognize you, get some big awards, only after the authorities will follow you. But it is not possible to wait for the recognition and awards. I am aware that if I will start working for the benefits of traditional healers right now in next 50 years of my life, I will be able to prepare a new generation of traditional healers of same potential. Also, I will be able to motivate the natives of young generation to understand the importance of natural resources and traditional knowledge about it. I am expressing all the thoughts with the hope that through Pen, (and writing) one can motivate the people more promisingly than the use of power.

Safed Musli (*Chlorophytum* sp.), Hadjod (*Cissus quadrangularis*), Rani Keeda (*Trombidium* sp.), Sarpagandha (*Rauvolfia serpentina*) etc. are some herbs and insects on which the multinationals are taking keen interest. Possibly, my research articles at Botanical.Com have developed interest in them about the herbs and insects of Chhattisgarh. Before the flood of new proposals come, I think it is very essential to settle these issues with special emphasis.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 264. Patera Ke Sag.

Patera is a local name of *Typha angustata*. Although for the researchers it is a problematic marshy weed but for the natives and traditional healers of Chhattisgarh, it is very useful herb. They are aware of its medicinal properties and uses. Its leaves are planted into articles such as ropes, chicks, winnowing trays and mats. The silky florets of spikes are used for stuffing purpose. Patera Ke Sag is prepared by using its young shoots and inflorescence. This preparation is very popular among the natives particularly in poor natives. In Chhattisgarh, many sweet dishes are also prepared from Patera plant parts. The traditional healers are aware of health benefits of Patera Ke Sag (Curry). It is considered useful for throat related troubles. The patients having the problem of constipation are also advised to consume this Sag.

Material Required: Patera young shoots and inflorescence, Lason (Garlic), Namak (Salt), Hardi (Turmeric), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The young shoots and inflorescence are chopped into small pieces. Many times, these parts are boiled after chopping to make it soft. The oil is taken in pan and it is kept on fire. The small pieces of shoots and inflorescence are added in pan with all other ingredients. The mixture is roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Patera, please read my previous articles.

**Traditional medicinal knowledge about Bark borer *Indarbela quadrinotata* (Wlk.)
[Arbelisae : Lepidoptera] feeding on Mango bark, in Chhattisgarh, India.**

Ama or Mango (*Mangifera indica*) is a popular fruit tree in Chhattisgarh. Besides, its fruits, the natives use all parts of Ama for various purposes. In reference literatures related to different systems of medicine in India, Ama holds a reputed position as medicine. Many insects infest Ama orchards in Chhattisgarh. The Bark borer *Indarbela quadrinotata* is one of these insects. According to the reference literatures, the adult female lays eggs in clusters of 15-25 on bark. The eggs hatch in 8-11 days. The larva feeds first on bark and then bores into the wood inhibiting sap flow which in turn affects growth and fruiting capacity of the plant. It is considered as one of the problematic pest. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past. I have observed that the traditional healers and senior natives of Gandai, Salewara and neighbouring areas use the larva, just before going for pupation, as medicine. In nature, the larva constructs galleries of silk, frass and wood fragments on the bark surface and remains within. The traditional healers aware of its medicinal uses and properties, never miss the chance to collect the larva with the galleries. The healers use it in treatment of Bavasir (Piles), in many ways. The larva with the galleries are boiled in Sarson (Mustard seed) oil and when all watery contents evaporate, the boiling is stopped. This special oil is kept for future use. This special oil is applied on anus after each motion. This oil is considered beneficial for the patients having piles. In order to reduce the intense pain, the larva with the galleries, are burnt, after drying, and patients are advised to expose the affected parts in fumes. It is considered as one of the promising treatments. To stop the bleeding from piles, many healers mix the larva with Mitti Tel (Kerosene oil) and with the help of cotton bud apply it on piles. Its application helps in checking the bleeding effectively in very less time. The traditional healers add the larva with galleries as major ingredients in many popular herbal combinations but as traditional knowledge they do not disclose the secret. Through the on-going surveys. I am trying my best to gather more information on this important insect. This Bark borer attacks on many tree species. Based on its feeding, the traditional healers of different regions use it for different purposes. You will find the details in coming articles.

The traditional medicinal uses of Indarbela feeding on Ama bark are coming among the world community for the first time, through this research article. These uses have yet not been reported in reference literatures.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Leaf eating caterpillar *Spodoptera litura* Fab. (Noctuidae : Lepidoptera) feeding on Pudina (*Mentha arvensis*) in Chhattisgarh, India.

Pudina (*Mentha arvensis*) is a well known medicinal herb in Chhattisgarh. It is planted in home gardens for various purposes. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Since generation, it is in use as home remedy. In reference literatures related to different systems of medicine in India, Pudina holds a reputed position as medicinal herb. Many species of *Mentha* are under cultivation as medicinal crop in Chhattisgarh. The infestation of Leaf eating caterpillar *Spodoptera litura* is common problem. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent post, I have observed that many traditional healers of Chhattisgarh Plains use the caterpillars feeding on *Mentha* leaves as medicine. I have mentioned in previous articles that the traditional healers of different parts of Chhattisgarh use *Spodoptera* caterpillars feeding on different hosts as medicine, for different purposes. The traditional healers using the caterpillars collected from *Mentha* fields consider it promising in treatment of respiratory troubles. They use the caterpillars in many ways alone or in combination with medicinal herbs to treat the respiratory troubles. In treatment of Sinusitis, the full fed caterpillars are used with Kukronda (*Blumea lacera*) leaves. By mixing the caterpillars and *Blumea* leaves, the healers prepare an aqueous paste. This paste is applied on affected parts. After drying, it is washed and fresh paste is applied again. It is considered as one of the promising treatments. Its effectiveness in reducing the intense pain is the reason that has established it as promising remedy. In treatment of respiratory troubles in small children, the healers use the paste of caterpillars alone. The paste is rubbed externally on

chest as medicine. Many senior traditional healers, boil the full fed caterpillars in Sarson (Mustard seed) oil and when all watery contents evaporate, the boiling is stopped. After filter, the oil is used in form of massage in treatment of respiratory troubles. I have observed during the survey that many healers prepare it in bulk, and give it to the common natives to massage it in same way, in order to get protection from common cough and cold, particularly in winter season. The caterpillars collected from organic fields are used only. The stored caterpillars are not used. The caterpillars are killed immediately after the collection because according to the healers, the live caterpillars may pass the useful natural chemicals out, through excreta.

The infestation of *Spodoptera litura* is common in *Mentha* growing regions of Chhattisgarh. Every year the *Mentha* growers use agrochemicals to manage these insects in crop fields. The new information regarding medicinal uses of these caterpillars, mentioned in this article, will be of great use for the researchers working on utilization aspects of agricultural pest, around the world.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Tea Mosquito Bug *Helopeltis antoni* Sign. feeding on Jam fruits in Chhattisgarh, India.

Jam (Guava) is well known fruit crop in Chhattisgarh. Many varieties of Guava are under cultivation in Chhattisgarh. I have mentioned in previous articles that the natives and traditional healers of the state are not only aware of medicinal properties and uses of Guava plant parts but also they use the insects feeding on it, as medicinal insect. Tea Mosquito Bug *Helopeltis antoni* (Miridae : Hemiptera) is one of the problematic pests of Guava plant. It damages the

Fruits. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Nagri-Sihawa and Gariaband regions of Chhattisgarh use Tea Mosquito Bug feeding on Guava fruits as medicine. The full fed bugs are collected in bulk and after shade drying use it in very small amount as medicine. The dry bugs are added in many herbal formulations. I have listed out nine such formulations in which these bugs are added as main ingredients. These formulations are used mainly in treatment of liver related troubles. The traditional healers informed that by nature, Tea Mosquito bugs are hot and possess some toxic contents that are unfit for human body in bulk amount. In treatment of Jaundice, many healers give the dry bugs in combination with Bhuiaonla (*Phyllanthus amarus*). Bhuiaonla is well known herb for Jaundice. The healers claim that Bhuiaonla possess some properties that nullifies the harmful effects of Tea Mosquito bug. According to the healers, they are using this bug as medicine since generations as traditional knowledge. I have noted during the survey that many herb vendors sell the dry bug collected from Guava rich regions, to the traditional healers. The healers of Chhattisgarh are not aware of any other uses of this bug.

The traditional medicinal uses of Tea Mosquito Bug feeding on Guava fruits have not been reported in reference literatures. I am thankful to the Mother Nature, for giving me opportunity to document this important traditional knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 268. Pasati Ke Sag.

Pasati or Pasati Van is a local name of *Talinum triangulare*. According to the reference literatures, it is a herb, introduced from Sri Lanka and is now under cultivation in many parts of India. In Chhattisgarh, Pasati grows as wasteland herb. This herb has introduced in recent past. This is the reason that the traditional healers are not much aware of its medicinal properties and

uses. Pasati Ke Sag is prepared from its leaves and stems. This Sag (Curry) is popular among the poor natives. They consume it for specific taste. Many traditional healers informed that the internal use of this Sag upto long time acts as blood purifier. They recommend it to the patients having gynaecological troubles.

Material Required: Pasati leaves and stems, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Pasati leaves and stem are added in pan with all ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Pasati, please read my previous articles.

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Traditional medicinal knowledge about Bark borer *Indarbela quadrinotata* Wlk. feeding on Kapok (*Ceiba pentandra*) in Chhattisgarh, India.

According to the reference literatures, Kapok is a tree widely distributed in many parts of Chhattisgarh. It is often found planted around villages and temples. The floss obtained from

inner fruit (Capsule) wall in which seeds lie loose when ripe. The hairs or fibres are lustrous, resilient, elastic and buoyant and not liable to 'bunch' when used in upholstery. It is extensively used in manufacture of life-belts and life-jackets owing to its extreme buoyancy and resistance to water logging. Many insect species attack on Kapok tree in Chhattisgarh. The Bark borer *Indarbela quadrinotata* is one of these species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past I have observed that the traditional healers of Chhattisgarh Plains use the full fed larva as medicine. After collecting the full-fed larvae, it is dried in shade and converted into powder. This powder is added in popular herbal combinations used to stop all types of bleeding both internal as well as external. The herb collectors of Gariaband region keep the powder when they visit to nearby forest for the collection of herbs. The powder is used as styptic in case of injuries, as first aid measure in order to stop the bleeding without any delay. The healers also prepare a decoction by boiling full fed larva in combination with herbs, in water. This decoction is used to wash the wounds. It is considered specially useful in case of old wounds. According to the healers, this larva based formulation not only acts as germicide but also helps in increasing the rate of healing. The traditional healers of Rajnandgaon region use the full fed larva in popular herbal combinations used in treatment of skin related troubles. In many combinations, the healers add Kapok bark also in order to get more promising effects. The information regarding the traditional medicinal uses of Kapok is limited with few traditional healers. They have gained this knowledge from their ancestors. This is a matter of appreciation that they are still practicing this traditional knowledge in original form.

In reference literatures, these traditional medicinal uses have yet not been reported. I am feeling proud to document this important knowledge.

Thank you very much for reading the article.

Pat Jhud, a special season for the traditional healers of Chhattisgarh, India. : My experiences and observations.

Pat Jhud is a season of fall (Pat-leaves; Jhud-to fall). For the traditional healers of Chhattisgarh living in deciduous forest, this season is a busy season and they collect the dry leaves for specific reasons. In general, the traditional healers use newly emerged leaves as medicine. The old leaves are used less commonly. It is mentioned in reference literatures related to different systems of medicine in India. During the Ethno-botanical surveys conducted in different parts of Chhattisgarh, when I observed the specific activity of certain traditional healers particularly the senior traditional healers, I decided to gather the detailed information on this aspect. I am sharing some of my experiences and observations with these healers.

It is common belief among the traditional healers that through the season of Pat Jhud, the God presents the valuable medicines in form of fallen leaves, to the traditional healers. These dead leaves are used as medicine. The traditional healers of Pendra region informed me that the leaves collected from ground are not useful. At noon (and also at morning), during the season, the traditional healers stand under the specific trees and wait for the leaves. The leaves falling at specific direction are collected before reaching to the ground. The healers of Chhattisgarh Plains informed that during the period of Pat Jhud, the human beings and cattle get affected with many health related troubles. These troubles can be treated successfully with the help of fallen leaves collected from specific trees. It is the effectiveness of the leaves, that the traditional healers have deep faith in this traditional practice and they are following it with sincerity. The traditional healers of Gandai-Salewara region are aware that the leaves should be collected before touching the ground but they are not much careful about specific direction. The healers are not aware that why the leaves must be collected in air but many of them, believe that by touching the ground, it loses its many properties. I am trying my best to search the science behind this belief. The traditional healers of Narharpur region informed that the leaves collected during Pat Jhud are used externally mainly. In this season, the problems related to respiratory system aggravates. The healers of this region, suggest the patients to burn the leaves collected during this season, in order to get relief from trouble. I have observed in Durg region that the healers specialized in treatment of animals, suggest the cattle owners to burn the fallen leaves, in cattle shed twice a day upto one month, in order to prevent the attack of diseases. Many healers have associated it with the evil spirits. But the only reason of its burning is to make the micro-environment free from pathogens. In this season, the small children get affected with many infectious skin troubles. The traditional healers collect the fallen leaves and give it to the parents. The leaves are smeared on body in form of paste before bath. Many times, the leaves are boiled and water is used during bath. The common natives are not much aware that the mixture given by the healers is made up of fallen leaves.

As a student of science it is a simple question that fallen leaves means which leaves? Whether leaves of specific tree or it is a combination of leaves ? In these questions, the traditional healers are divided in two groups. Many healers use the leaves of specific tree whereas the healers using different leaves are dependent on the God, for the combination. These healers visit to the forests between 2 pm to 4 pm and walk in one direction. During walking the leaves coming to them are collected in air by them and after completion of the visit, all leaves are mixed. Scientifically, the first method seems promising but you will be surprised to know that the number of healers using natural combinations are more in number and the rate of success is higher in their cases. When I tried to discuss these healers with question that every visit may result in different combination, they refused to talk on this aspect. Why the time between 2pm to 4pm has been fixed? I am searching the scientific explanation by keeping this question in view. Although our reference literatures do not give any indication but I think, possibly the leaves of some specific trees fall naturally during this time period. Any young researcher reading this article ? My suggestion is to start the systematic research to search the answer. If my hypothesis is correct, then the big question is that how the healers have gained this important knowledge and why we have lost the scientific explanation associated with this traditional method. When the healers visit to the forests for the leaf collection, they walk at specific speed and style. Although the Flora of different parts of Chhattisgarh is different but the traditional healers of all regions perform visit at specific period. The fallen leaves are not used internally. The healers believe that its internal use can destroy the different components of body.

The traditional healers following this traditional practice are becoming lesser in number day by day. Due to lack of proper explanation, the healers of young generation is

not understanding the importance of this traditional knowledge. They are collecting the fallen leaves. The purpose of presenting this unique practice among the world community through this article is to attract the attention of researchers and interested persons towards this unique practice. Before this article, no one has written about this unique practice. I am aware that we have little time to conserve this knowledge and to establish the science of this practice, so that our future generation can adopt it easily.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 267. Barau Ke Sag.

Barau is a local name of *Taraxacum officinale*. It is a herb distributed in temperate Himalayan regions of India. In Chhattisgarh, its natural distribution is limited to hilly regions. This herb has introduced in Chhattisgarh in recent past. This is the reason, the traditional healers of Chhattisgarh are not much aware of its medicinal properties and uses. Barau Ke Sag is prepared from its leaves. The natives particularly the poor natives consume this Sag with taste. The traditional healers consider this Sag good for general health but they are not confident. In reference literatures it is mentioned that the rhizomes and roots of Barau constitute drug known as *Taraxacum* which is used as diuretic, stomachic, hepatic stimulant and tonic.

Material Required: Barau leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: The pan having oil is kept on fire. Barau leaves are cut into small pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Barau, please read my previous articles.

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Traditional medicinal knowledge about Bark borer *Indarbela quadrinotata* Wlk, feeding on *Acacia Senegal* bark, in Chhattisgarh, India.

According to the reference literatures, *Acacia senegal* is a small tree, branching from near the base, with hooked or straight spines, usually in three, flowers white and fragrant. This tree is a native to North Africa but now found in many parts of India including Chhattisgarh. This is the most important species of gum yielding acacias and the main source of true gum Arabic. The Gum obtained from stem bark, is used in textile, mucilage, paste, polish and confectionery industries. In Chhattisgarh, the natives and traditional healers are aware of its natural occurrence. Its all parts particularly Gum and bark are used as traditional medicine. Many insects including *Indarbela quadrinotata* infest *Acacia senegal* in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers specialized in treatment of skin related troubles used the full fed caterpillar of *Indarbela quadrinotata* as medicine. It is used internally as well as externally both alone and in combination with medicinal herbs. The traditional healers of Chhattisgarh Plains prepare a special oil by boiling the caterpillars in Til oil (Sesame). This oil is considered as a boon for the patients having the problem of Safed Dag (Leucoderma). Many healers mix the freshly collected caterpillars with cow urine and apply the paste externally on affected parts. The healers have deep faith in this use. According to them, at initial stages, the caterpillar based combinations act as miracle. For internal use, the healers collect the caterpillars and dip it in herbal decoction upto 3 hours. They do not disclose the ingredients of decoction but accepted that Neem (*Margosa*) leaves play an important role in this decoction. After specific period, the caterpillars are dried in shade and converted into powder. In herbal formulations, the caterpillar powder is added in very small amount. The healers informed that the powder acts as blood purifier and also it helps in reducing the level of toxins inside the body. I have observed that the healers prefer its external use than the internal use. The healers are not aware of use of *Acacia senegal* bark in treatment of Leucoderma. The traditional healers claimed that they have discovered the miraculous property of full fed caterpillars in recent past. They have not gained it from their ancestors. This traditional knowledge is limited with very few healers. The traditional healers of many parts of Chhattisgarh are aware of its use in treatment of other skin related troubles particularly in treatment of Ringworm but as other promising herbal alternatives are available, it is used less commonly.

The above mentioned traditional medicinal uses of Bark borer feeding on *Acacia senegal* have not been reported in reference literatures. As many species of *Indarbela* are present in North Africa from where *Acacia senegal* has spread, I am trying my best to gather the information that whether the healers of North Africa are using it as medicinal insect or not?

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 266. Kakua Ke Sag.

Kakua is a local name of *Thunbergia grandiflora*. It is a woody climber grown as an ornamental on trees and fences as it forms dense screen by its foliage. It is well known shrub in Chhattisgarh. Kakua Ke Sag is prepared by using its leaves. As Sag (Curry) it is not popular among the common natives. In fact, the traditional healers recommend its leaves for different purposes. The leaves can be given in different forms. Sag is one of these forms. Many healers recommend leaves in form of decoction. According to the healers, out of all these forms, the patients prefer the form of Sag. This Sag is considered useful in treatment of stomach related troubles. The traditional healers of Chhattisgarh Plains recommend this Sag more commonly than the healers of other regions.

Material Required: Kakua leaves, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Oil) etc.

Method of Preparation: The pan having oil is kept on fire. Kakua leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Kakua, please read my previous articles.

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Traditional medicinal knowledge about Bark borer *Indarbela quadrinotata* Wlk. feeding on Amla (*Emblica officinalis*) bark, in Chhattisgarh, India.

Amla (Indian Gooseberry) is a moderate sized deciduous tree, native to S.E. Asia and now under cultivation in almost all parts of Chhattisgarh. Amla is considered as a tree of religious and medicinal importance. All parts are used as medicine. In reference literatures related to different systems of medicine in India, Amla holds a reputed position. Its fruits are used more commonly. It is a rich source of vitamin C and is considered to be good liver tonic. Its bark and leaves are used for tanning. Many insects attack on Amla tree in natural condition. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh in recent past, I have observed that the traditional healers of Dalli-Rajhara region use the Bark borer *Indarbela quadrinotata* feeding on Amla bark as medicine. The traditional healers informed that Amla bark possess astringent properties. They use the bark in combination with other herbs in treatment of Sujak (Gonorrhoea). According to them, the larva feeding on Amla bark is more astringent in property than the bark and this is the reason that the healers never miss the chance to utilize the full fed larva in place of bark. I have listed out over eighteen traditional combinations in which full fed larvae are used as main ingredients. They have specific criteria for the selection of larva. The active larva are not preferred. The larva collected from old trees are considered more useful. The use of old and stored larva are avoided. The traditional healers of other parts of Chhattisgarh are not much aware of these traditional uses. The healers of Dalli-Rajhara region informed that in early days, they were using more Bark borer based formulations but now they prefer its herbal alternatives.

The above mentioned traditional medicinal uses of Bark borer feeding on Amla bark have yet not been reported. This present research article is a first written document on this important aspect.

Thank you very much for reading the article.

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Some less known but promising traditional formulations of Chhattisgarh, India. III. Sanp Kate Bar Dwai.

As snake-bite is one of the common problems, the natives and Chhattisgarh face during rainy season, the traditional healers treating this trouble have developed many herbal formulations and specific uses of single herb, in order to root out the trouble with high success rate. Many of the healers are practicing traditional knowledge to nullify the effects of snake-venom successfully. In general, these traditional healers avoid to disclose the secret formulation, but I was lucky enough to get the information on complete cure of snake-bite, during the ethnobotanical surveys in Bagbahera region of Chhattisgarh. The healers of this region try to manage this problem with the help of single herb. This single herb is used in many ways at a time or at frequent interval and after sometime, the patients get rid from the trouble. In my previous articles, I have written a lot on use of Fudhar (*Calotropis gigantea*) plant parts in treatment but the traditional healers of Bagbahera region consider *Calotropis procera* more promising in treatment. Like *C. gigantea*, *C. procera* is also a wasteland weed but grows relatively less in number as compared to the *C. gigantea*. When the patients reach to the traditional healers, after performing basic measures, like tightening the thread above the affect part, in order to prevent the spread of venom, etc. , the healers start treatment with *Calotropis procera*. They instruct their co-workers to apply the latex (Doodh) of *C. procera*, drop by drop on affected part. After drying of drops, apply more drops. This procedure is continued without any break. The healers explained that when the level of Venom reduces, the rate of drying (of latex) decreases. By this application, the healers also examine the condition of the patients. Internally, the healers, give five leaves (newly emerged) with Gud (Jaggery) to the patients and after this dose, the patients are given plenty of cow ghee. After the intake of cow ghee, five buds of *C.*

procera are given with Kali Mirch (*Piper nigrum*). After this dose, cow ghee is given again. The combinations and cow ghee are repeated in same manner. According to the traditional healers in most of the cases, these treatments, start curing the trouble but in case of complication, they extract the juice of *C. procera* roots and give it to the patients as additional treatment. One of their co-workers, utters Mantras during this process. Besides the herbs, the healers also give equal credit to the Mantras. I have observed this way of treatment many times during the ethnobotanical surveys in Bagbahera region. The healers informed that the time is an important factor that decides whether the patients will survive or not. In most of the cases, the healers declare at the start of treatment that what they can do for the patients. In dense forests or in forest regions far from modern medical facilities, the relatives of the patients, request the healers to try their best, although there are less chances of survival, in many cases. The traditional healers do not attend the cases, in which someone has tried herbs as experiment. They simply explain that the Mantras used earlier can cause great harms to the patients, if they utter their own Mantras. The traditional healers are having their own criteria for the selection of potential *C. procera* herb. In Bagbahera region, they have identified specific locations where this herb grows in abundance. In case of requirement, the co-workers visit to the place, and bring the herbs. The herbs are not always collected from the same location. The rotational harvesting helps the herbs to grow freely. When I informed the traditional healers that through my research articles, this use will appear among the world community, they made no objection but requested that do not commercialize this traditional knowledge and treat the poor patients without taking any charge.

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Traditional medicinal knowledge about *Cryptacanthacris tartarica* L, feeding on Sunflower, in Chhattisgarh, India.

Sunflower (*Helianthus annuus*) is one of the major oilseed crops of Chhattisgarh. Its seeds are source of semi-drying oil which is used in cooking, margarine preparation, as lubricant, for burning purposes and in soap, paint and varnish industries. Its oil-cake is used as cattle-feed. Sunflower is also planted as ornamental herb. In many parts of Chhattisgarh, *Cryptacanthacris tartarica*, a grasshopper, attacks on young seedlings of sunflower. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of these regions use both grass hopper and its excreta as medicine. The full fed grass hoppers are used to prepare a special oil by boiling it in Til (Sesame seed) oil. Many

healers add the Sitaphal (*Annona squamosa*) leaf juice, before boiling. This special oil is considered very useful in hair care. Its regular use not only helps in promoting good hair growth but also keeps the hair free from lice. During use the healers instruct the patients to avoid its entry into the eyes. According to them, this entry can cause much problems. I have observed during the surveys, that the healers also add the grasshoppers in form of powder in other oils that are used for hair care. The full fed hoppers are used only. The healers use the excreta of these grass hoppers in treatment of boils. The excreta is applied in form of aqueous paste on boils in order to suppress it. According to the healers, this application absorbs extra heat from boils and helps in reducing its size. As it is very difficult to get the excreta in natural conditions, the traditional healers use the excreta in combination with medicinal herbs. Many healers use the excreta in combination with rat excreta for the same purpose. The excreta is also used externally as pain killer. Many healers suggest its external application in case of headache. But as other promising alternatives are available, this treatment is not much popular. The healers informed that in specific years, the attack of this grass hopper increases. Many years they have to depend on other medicinal insects and herbs. The healers are not in favour of its off-season use and long term storage.

These traditional medicinal uses of *Cryptacanthacris tartarica* feeding on Sunflower have not been reported in reference literatures. As these grasshoppers are common in many parts of world, I am expecting that this information will be of great use for the researchers of these regions.

Thank you very much for reading the article.

Traditional medicinal knowledge about *Rastrococcus iceryoides* (Green) [Homoptera : Pseudococcidae] feeding on Lemon and Guava, in Chhattisgarh, India.

According to the reference literatures, *Rastrococcus iceryoides* is well known polyphagous mealy bug species. In Chhattisgarh, it attacks on many species particularly in Lemon and Guava. Lemon and Guava are under cultivation as fruit crop in Chhattisgarh. Besides its fruits, the natives and traditional healers of the state, use its all plant parts as medicine. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that in many parts particularly in Chhattisgarh plains the senior natives use the mealy bug as veterinary medicine. They collect the bugs feeding on Guava plant with Guava leaves and by boiling it with water prepare a decoction. In rainy season, this decoction is used by them to wash the cattle, in order to protect it from infectious diseases. Many traditional healers of this region are also aware of this use. They add the full fed bugs in popular herbal combinations used in treatment of Foot and Mouth disease of cattle. The traditional healers of Gandai-Salewara regions of Chhattisgarh, use the mealy bug feeding on Lemon plants in treatment of Mirgi (Epilepsy). They collect the bugs and after drying add it with medicinal herbs. This combination is burnt and patients having Mirgi are advised to inhale the fumes coming from the combination. According to the traditional healers, the mealy bug plays an important role in this combination. Many healers of Southern Chhattisgarh boil the Lemon leaves having bugs in Til (Sesame seed) oil and prepare a special oil. The patients having the problem of Insomnia are advised to massage this oil externally on soles before going to sleep. As other promising alternatives are available, this oil is used less commonly by the healers. As traditional knowledge, the healers want to keep the details regarding its doses and exact method of preparation as secret.

The above mentioned traditional medicinal uses of *Rastrococcus iceryoides* have yet not been reported in reference literatures. This article is the first written document on this aspect.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 203. Vrahikand Ke Sag.

Vrahikand is a local name of *Tacca leontopetaloides*. It is a common herb distributed in many parts of India. It is also cultivated for the ornamental foliage. For the natives living in forest regions and traditional healers, Vrahikand is a source of valuable medicines. They are well aware of its medicinal properties and uses. Its rhizomes are used most commonly. Vrahikand Ke Sag is prepared by using its rhizomes. After processing or pretreatment in order to nullify its harmful effects, the natives use the raw rhizomes also. The natives of different regions prepare the Sag (Curry) by adopting different methods. According to the natives, besides taste, it is a source of energy and its regular use helps in good health. The traditional healers of Chhattisgarh have confirmed its promising effects.

Material Required: Vrahikand rhizomes, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The rhizomes are cut into small pieces. The pieces are boiled in water and water is drained out. Oil is taken in pan and it is kept on fire. The rhizome pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Vrahikand, please read my previous articles.

Are all Gram caterpillars possess same medicinal properties?

When I write research articles, this question always comes in my mind. When I give details regarding all aspects of any insect based formulations, I try to give the specific information about the particular insect, viz. from where it should be collected. Are all Gram caterpillars possess same medicinal properties ? The healers answer is No. In the recent Ethno-entomological surveys conducted in different parts of Chhattisgarh, I asked this specific question to every healer and noted their views. Most of the healers using forest insects as medicine informed that in case of forest insects one can use any insect feeding on specific plant for preparation of medicine. When the insects collected from cultivated fields, the healers take special precaution. The traditional healers are aware that by long fighting with the agrochemicals made by human beings, the insects have developed resistance. This resistance has changed the medicinal properties of insects and according to the traditional healers, these resistant insects have developed toxins inside their bodies. The healers do not use these insects as medicine. This is the reason, I always write in my articles that the insects collected from organic fields are used for the preparation of medicine. In fact, it is also not a very correct information. The resistant caterpillars feeding on organic fields are also not considered suitable as medicine. The traditional healers informed during interactions that in urban or semi-urban areas, it is very hard to get potential medicinal insects that feeds on agricultural crops. To solve this problem, the healers have developed many crude methods for identification of resistant insects. The traditional healers of Bagbahera region, prepare a special decoction by boiling the Dhatra (*Datura* sp.), Fudhar (*Calotropis gigantea*) and Neem (*Margosa* tree) leaves and apply its few drops on many caterpillars. The caterpillars showing poor responses to this decoction are rejected, considered that these are resistant types. The most reactive caterpillars are collected used for making medicine. The traditional healers of different parts of Chhattisgarh use different herbs to prepare the decoction. The healers informed that in most of the cases they get success in selection of potential insect but many times resistant types are collected by mistake and in formulations it causes many problems. To avoid these chances, now the healers have discovered many herbs having potential to nullify the harmful effects of resistant types. These herbs are added in herbal formulations as precautionary measure. The traditional healers of Chhattisgarh Plains informed that most of this herbs are common weeds that grows in crop fields and on which the insects avoid to attack. By experience the healers are aware about the effect of these herbs on human health. For example, to nullify the harmful effects of resistant type of Gram caterpillar, the healers add the whole herb of Akarkara *Spilanthes acmella*, that grows as common weed in Gram fields but on which the caterpillars attack rarely. In early days when majority of the farmers were cultivating the agricultural crops organically, the availability of

potential medicinal insect was not the problem but now a days, the heavy use of agrochemicals, is now forcing many healers to avoid the collection and use of medicinal insects.

As these days I am writing a series of research articles based on the ethno entomological surveys conducted in different parts of Chhattisgarh, in recent past, I felt it necessary to give the above details, as supplement information to the readers.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 150. Kadu Phal Ke Shurbut.

Kadu Phal is a local name of *Zanonia indica*. It is a climbing shrub, distributed in many parts of Chhattisgarh particularly in hilly regions. The traditional healers are not much aware of its medicinal properties and uses. Kadu Phal Ke Shurbut is prepared by using its fruits. For the first time I got information about this Shurbut from the traditional healers of Keshkal valley. This region is rich in natural population of this herb. The healers prepare and recommend this Shurbut for very specific reason. In treatment of snake poison, the healers give this Shurbut as supplement treatment. The patients are advised to take this Shurbut even after the complete treatment in order to eliminate the minor residues of venom or poison. This specific use and its less popularity among the natives are making this Shurbut, a thing of past. This observation motivated me to document the information about this Shurbut without any delay. To prepare the Shurbut, the juice is extracted from fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). By mixing the juice and syrup, Shurbut is prepared. In general, the traditional

healers prepare this Shurbut in bulk at their homes and give it to the patients, without disclosing the details.

For the botany, traditional and reported medicinal uses of Kadu Phal, please read my previous articles.

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Traditional medicinal knowledge about *Spilosoma obliqua* caterpillars feeding on Jute, in Chhattisgarh, India.

Jute (*Corchorus* sp.) is well known fibre crop in India. It is under cultivation in many parts of India. The Tossa Jute (*Corchorus olitorius*) is known as Mithapat in Hindi language. The fibre obtained from its stem by retting is used for rough weaving, coarse cloth, packing cloth, ropes, twines, carpets, Hessian and bags for transport and storage of food grains etc. The Jute hairy caterpillar *Spilosoma obliqua* is a serious pest of Jute. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Bagbahera region use the *Spilosoma* caterpillars as medicine, both internally as well as externally, in treatment of many common diseases. As Jute is not under cultivation in this parts of Chhattisgarh, the healers are dependent on the herb vendors of neighbouring state Orissa for the availability of full fed caterpillars. The herb vendors are also aware of its medicinal uses. This is the reason, in place of caterpillars, they supply the processed caterpillars to the traditional healers. They boil the freshly collected caterpillars in base oil and when all watery contents evaporate the boiling is stopped and special oil is kept for future use. As base oil, Til (Sesame seed) oil is used. The special oil is used externally in treatment of common skin diseases by the healers. The oil is also massaged gently on soles and palms, in order to reduce the burning sensation. These uses are very popular among them. The herb vendors of neighbouring state prepare the special oil by standard method and supply it to the healers. They also supply the powdered caterpillars. The traditional healers add this powder in popular herbal combinations used for various purposes. The caterpillar powder is considered very useful in

liver related troubles. The healers add it in herbal combinations used to treat the problem of dysentery. From visual observation, it is not possible to judge whether the oil or powder is prepared from full fed caterpillars of Jute plant but it is a faith, that the healers are purchasing it from herb vendors, since time immemorial. The traditional healers are not aware of its other uses. The traditional healers of other parts of Chhattisgarh are not much aware of these uses. The herb vendors do not adopt any selection criteria, during the collection of caterpillars.

As Jute is a major crop in many parts of the world and *Spilosoma obliqua* infests it, I am expecting that these traditional medicinal uses will be of great importance for the researchers working on its management. This research article is the first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 262. Pardesi Ketki Ke Sag.

Pardesi Ketki is a local name of *Yucca aloifolia*. It is not a common herb in Chhattisgarh. Many Christian families of Northern parts of Chhattisgarh grow this herb as ornamental herb. During my stay at Ajirma farm, Ambikapur in the year 1994, I got the information about Pardesi Ketki ke Sag for the first time. The natives of this region prepare it by using its flowers. According to them, besides taste, it is promising for the gynaecological troubles. The traditional healers of Chhattisgarh are not much aware of its medicinal uses. In reference literatures related to different systems of medicine in India, I have yet not found any detail regarding its use as Sag (Curry).

Material Required: Pardesi Ketki flowers, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and it is kept on fire. The flowers and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Pardesi Ketki, please read my previous article.

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Traditional medicinal knowledge about *Callothrips indicus* (Bagnall) [Thripidae : Thysanoptera] feeding on Lason (Garlic), in Chhattisgarh, India.

According to the reference literatures, the adults and nymphs of *Callothrips indicus* suck the sap from leaves causing white patches. As a result the leaves dry up. A female lays 19-96 eggs placed singly in tissues of leaves. There are two nymphal instars, a pre-pupal and a pupal instar completed in 13-20 days. Lason (Garlic) is well known herb in Chhattisgarh. It is under commercial cultivation for its bulb. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Lason is in use as home remedy since generations. The attack of *Callothrips* on Lason crop is a common problem in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh. I have observed that the traditional healers of Chhattisgarh Plains use the nymphs and adults of *Callothrips indicus* feeding on Lason as medicine in specific way. They collect the full fed nymphs and adults in equal proportion. With the help of Black (Kanhar) soil they prepare a mud ball and put these nymphs and adults in it. The sealed mud ball is then kept inside the earthen pot and pot is buried in the shade of Neem trees for one week. After this duration, the mud ball is collected and converted into powder. The powder is mixed with cow urine and an aqueous paste is prepared. This paste is considered as a boon for the patients having skin related troubles. It is applied externally on affected parts. Many healers use the paste in order to dress the old wounds, particularly when all remedies fail. The traditional healers have deep faith in this

traditional use. Its popularity among them clearly indicates its efficacy. I have observed to during the surveys, that very few traditional healers are aware of its use and as secret traditional knowledge they are not ready to disclose the formulation to everyone. According to them, it is a specific method that makes the nymphs and adults medicinally (more) rich. The Neem tree shade and cow urine play important roles in this process. The healers further informed that in early days, their seniors were using it for many other purposes but these uses are not in practice now. This observation motivated me to document the information regarding its existing uses without any further delay.

In reference literatures, these traditional medicinal uses of *Callothrips indicus* feeding on *Lason* have yet not been reported. This research article is a first written document on this aspect.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 261. Duddhi Ke Sag.

In the names of Duddhi many herbs are available in Chhattisgarh and I have written on traditional knowledge about different dishes prepared from different Duddhi. In present article, I am writing about *Wrightia tomentosa*. It is well known medicinal herb in Chhattisgarh. The natives and traditional healers have rich traditional knowledge about this herb. According to the reference literatures, its every part yields yellow dye. Its wood is used for making combs and in carving and turnery. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that the natives of Sirpur region consume Duddhi Ke Sag with taste. Duddhi Ke Sag is prepared by using its leaves. According to the traditional healers, this Sag (Curry) is a promising blood purifier. They recommend it to the patients having skin related troubles.

Material Required: Duddhi leaves, Garlic (Lason), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices), etc.

Method of Preparation: The oil is taken in pan and it is kept on fire. Duddhi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Duddhi, please read my previous articles.

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Traditional medicinal knowledge about Gram caterpillar *Helicoverpa armigera* feeding on *Medicago denticulata*.

Medicago denticulata (Syn. *M. polymorpha*; *M. hispida*) grows as winter weed in different parts of Chhattisgarh. It is a common weed of Gram (Chickpea) fields. It also grows as wasteland weed. The natives and traditional healers of Chhattisgarh are aware of its many medicinal properties and uses. It is considered as potential medicinal weed. In many parts of India, it is grown as green manure and fodder crop. In Chhattisgarh, Gram caterpillar *Helicoverpa armigera* attacks on many plant species. *Medicago denticulata* is one of these species. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of many regions use the *Helicoverpa* caterpillars feeding on *Medicago denticulata* as medicinal insect. The full fed caterpillars are used both internally as well as externally. The caterpillars collected from Gram fields are not considered good for preparation of medicine. The caterpillars collected from wasteland are preferred. I have mentioned in previous

articles that the farmers of many regions use the caterpillars feeding on Gram, for its styptic properties. In case of injuries during field work, they apply the crushed caterpillars in affected parts. The traditional healers of Chhattisgarh Plains, use the caterpillars feeding on *Medicago* for the same purpose. I have observed that in case of skin related troubles particularly in treatment of Ringworm, the healers boil the full fed caterpillars in water and prepare a decoction. The patients are advised to wash the affected parts with this decoction. The traditional healers of Bastar region add the dry powder of caterpillars in popular herbal combinations used externally to dress the cancerous wounds. According to the healers, alone caterpillars powder is not enough to give desirable effects. It acts promisingly in combination with herbs. As traditional knowledge, they want to keep it secret. The traditional healers of Bagbahera region, add the caterpillar powder in herbal combinations taken internally to nullify the harmful effects of snake venom. The healers are having promising herbal alternatives to *Helicoverpa* caterpillars. This is the reason, they use it less commonly. But from documentation point of view, it is an important information. Besides these uses, the traditional healers are not aware of its other medicinal uses. They prefer its use during winter season only.

In reference literatures, these traditional medicinal uses of *Helicoverpa* caterpillar feeding on *Medicago denticulata* have not been mentioned. This research article is a first written document on this aspect.

Thank you very much for reading the article.

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The importance of the age of herbs for the traditional healers : My experiences and observations at Chhattisgarh, India.

When I meet with new information about herbs and herbal formulations, the traditional healers give special emphasis on the age of herbs. The age of herbs ? You will never find this specific information in any of the research publications. The publications give the common names of herbs used, its scientific names and proportions in which the herbs are mixed to prepare the formulations. In advanced journals you will find the details regarding clinical trials. But no one take care about giving details regarding the age of herbs. The healers take special precaution or care, when the trees or tree parts are used. When I reply to them, that the researchers have not mentioned about the details regarding age, then the healers say that the formulations are not well tested and the researchers are not aware of correct methodology. During the science workshops and seminars, when I asked the same question to the researchers, most of them failed to give the satisfactory reply. In fact, they have never expected about this question. I am with the traditional healers, in this discussion not with the researchers. The healers simply put a question that how the medicinal properties of bark collected from ten year old tree will be the same as the medicinal properties of hundred years old bark ? My Guru, Shri Vishal Bharat, once instructed me to collect the bark of Koha from different parts of Chhattisgarh. I collected over 20 samples of Koha bark (*Terminalia arjuna*). By experience, Shri Bharat categorized the samples from fresh to old bark. With the helps of 20 samples, he prepared 20 formulations and recommended it to patients, having fractured bone. All samples acted in different ways. The older dark resulted in higher healing rate. During the ethnobotanical surveys conducted in different parts of Chhattisgarh since 1994, I got opportunities to observe many such indigenous clinical trials. These observations motivated me to record all details particularly the age of herbs used in formulations, during the documentation work. This is the reason you will find such details in my research articles. In reference literatures related to different systems of medicine in India, particularly in Ayurveda, many thumb rules have been mentioned on this aspect but the traditional healers of Chhattisgarh are not ready to follow any thumb rules. According to them, there is specific rule for each specific species. For example, in reference literatures it is mentioned that the roots spreading in north direction are considered best but the traditional healers of Chhattisgarh use the roots spreading in south and east in case of many herbs. While searching the reference literatures, I have found very less detail regarding the age of herbs. Possibly, in past, for the healers it was not important information as every one was aware of it, but as time passed, the healers of new generations started forgetting this important knowledge and as result today very few information is available with us. But it is not a sad news. The knowledge the traditional healers of Chhattisgarh is having, is enough to guide the traditional healers of future generations. Through the regular interaction and meeting with the traditional healers I have collected the information regarding sixty five species of trees. I am aware that in Chhattisgarh we have thousands of species and the target is still too far but I am confident that with the help of young researchers I will be able to complete this documentation work. From these interactions, I have understood that there is no specific trend. In case of some herbs, the young herbs give good results whereas in other case, the older herbs result in more promising uses. All the information is not available with one traditional healer. The traditional healers using the specific herbs more commonly, are aware of these herbs only. This specific knowledge has increased our work to the great extent.

The traditional healers of Narharpur and Bastar regions requested me to visit the forests with them and to mark the oldest trees. They want to protect these old trees. I have visited many times with them and put special marks on old trees but when we returned back after some time, we found very few trees. The illegal tree felling is very common practice in these parts and the persons responsible for these felling are not aware of the importance of old trees. For the traditional healers of these regions the old trees are the source of potential medicines. Later when I informed about the motives of these healers to the healers of other regions, they unanimously supported this initiative and assured me to give full support in this holy work. Although the modern sciences have developed methods to find out the exact age of plants but the traditional healers are having their traditional methods. I have tested its accuracy many times. I have heard that the forests department keeps the record of trees on the basis of its age but when I searched it, I found that there is no such record. In human society, we keep the records of each individual, I think now the time has come, to adopt the same procedure for the trees and herbs present in wild. I am in very hurry, as I want the records, and assurance regarding protection of these potential trees before losing the senior traditional healers.

The traditional healers of Northern-hilly regions of Chhattisgarh informed me that in many areas, they are facing big problems as very few old trees are in existence. According to them, in such areas the trees available are very young and less potential in terms of medicinal properties. If they start waiting for the maturity of these trees, it will force the healers of one whole generation to sit idle. I have observed that the traditional healers are aware of the importance of age of herbs, never prefer to buy the herbs from the herb vendors and collectors. The herb vendors and collectors are not aware of the importance of age, in majority of the cases. At higher levels, due to the mixture of herbs collected from different corners, the herbal combinations fail to give real effects-the healers claim. Many healers inform that this is one of the reasons why the same herbal formulation available in different packs, give different results. From ground level, it seems impossible to suggest the pharmaceutical companies to adopt the methods suggested by the healers but the traditional healers have the solution. They informed that after identifying the groups of herbs through proposed survey present in wild of different ages, we can use the specific group for the preparation of herbal formulations at commercial level. I am still not confident that the companies will follow it or not. I personally think that at first, we must prepare a complete list regarding the age of herbs or herb parts to be collected for each formulation. After this we can search a practical method to identify the age of herb parts just before using it for commercial production of herbal drugs. Still, there are many ifs and buts. Through this article, I am putting this question among the scientific community for detailed (and fruitful) discussion. But before starting discussion, we have to accept the fact that the age of herbs plays an important role in making the herbs rich in medicinal properties.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common Shurbuts in Chhattisgarh, India 149.
Panar Ke Shurbut.**

Panar is a local name of *Randia uliginosa* (syn. *Gardenia uliginosa*). It is a well known tree of medicinal importance in Chhattisgarh. Its Oriya name is Pendra. Pendra is a well known region in Chhattisgarh. I am trying my best to confirm whether Pendra was named on the basis of this herb or not. The traditional healers use all parts of Panar as medicine. Panar Ke Shurbut is prepared by using its fruits. The traditional healers consider the fresh fruit and the Shurbut prepared from it, as a boon for the patients having the problem of dysentery. According to them, its regular use has other health benefits also. It regulates the function of the body. The natives prefer raw fruits as Shurbut is not much popular among them. To prepare the Shurbut, the juice is extracted by crushing the fruit pulp. Many healers boil the fruit pulp in water, collect the extract. Separately, Sugar is boiled in water to prepare the Chashni (Syrup). The juice and syrup are mixed. Panar Ke Shurbut can be stored up to one year. The healers are not in favour of use of more than one year old Shurbut.

For the botany, traditional and reported medicinal uses of Panar, please read my previous articles.

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Traditional Medicinal knowledge about Gram caterpillar *Helicoverpa armigera* feeding on *Acanthospermum hispidum*, in Chhattisgarh, India.

Van Gokhru or Kanta Van (*Acanthospermum hispidum*) grows as wasteland and crop weed in Chhattisgarh. For the senior natives and traditional healers of Chhattisgarh, it is an important medicinal herb. They use its all parts both internally as well externally in treatment of many common troubles. The healers of Chhattisgarh plains use this herb in form of special oil, in treatment of rheumatic pain. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Bagbahera region use the Gram caterpillar *Helicoverpa armigera* (Hubner) feeding on *Acanthospermum hispidum* as medicine. The healers consider the special oil prepared from caterpillars more promising than the oil prepared from host plant on which the caterpillars feed. The full fed caterpillars are collected and after killing, dried in shade. The dried caterpillars are stored in form of powder for future use. Many healers add this powder, in *Acanthospermum* oil in order to make it more useful. There are few healers using freshly collected caterpillars to prepare the oil. The freshly collected caterpillars are boiled in base oil. When all watery contents evaporate, the boiling is stopped, and after filter, the oil is used. As base oil Til (Sesame Seed) oil is used. The special oil is massaged on affected parts many times a day in order to get relief from intense pain. The healers suggest the patients to use the oil in very small amount, as the nature of oil is hot and in large amount it can cause blisters or skin irritations. Many senior traditional healers are not in favour of using freshly collected caterpillars as it possess some toxic materials. According to them, it should be used after purification. For purification, the healers use herbal decoction but as traditional knowledge they want to keep it secret. I have mentioned in previous articles that the traditional healers and senior natives of different parts of Chhattisgarh use the Gram caterpillars feeding on different herbs for different purposes. I have observed during the surveys that the healers of other regions are not much aware of medicinal uses of *Helicoverpa* feeding on *Acanthospermum*. The traditional healers of Bagbahera region are not aware of other medicinal uses other than its use as special oil. The healers have gained this knowledge from their ancestors. The matter of surprise and appreciation is that they are still practicing this knowledge with faith. Its popularity among them clearly indicates its efficacy.

In reference literatures, these traditional medicinal uses have yet not reported. These uses are coming among the world community for the first time through this research article.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 148.
Kendu Ke Shurbut.**

Kendu is a local name of *Diospyros tomentosa* (Syn. *D. exsculpta*). According to the reference literatures, Kendu is a small tree distributed in almost all parts of India. Its leaves are used for wrapping bidis whereas the fruits are edible. Its wood is used for cabinet-work, carving, picture frames, caskets, combs and brush-backs. Kendu is well known herb of medicinal importance in Chhattisgarh. Kendu Ke Shurbut is prepared by using its fruits. This preparation is popular among the natives of Kendu rich regions. In general, the natives prefer to consume raw fruits. Shurbut is prepared for its off-season use. The traditional healers of Chhattisgarh consider this Shurbut good for general health. According to them, it is a promising substitute to Tendu (*D. melanoxylon*) Shurbut. To prepare the Shurbut, the juice is extracted from fruits. In this juice, sugar syrup (Chashni) is mixed. The combination is known as Kendu Ke Shurbut. Diluted with water, it is used round the year, with taste.

For the botany, traditional and reported medicinal uses of Kendu, please read my previous articles.

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Some less known but promising traditional formulations of Chhattisgarh, India. II. Garbh Roke Ke Churan.

Garbh Roke Ke Churan is a herbal combination prepared for birth prevention. I have mentioned in previous articles that the natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about common herbs and insects used as birth control measures both internally as well as externally. I got the information regarding Garbh Roke Ke Churan from the traditional healer of Mudpar village Shri Hanumat Prasad Verma. According to him, there are many traditional formulations that can be used for this purpose, but he have deep faith in this particular Churan. In this Churan, he uses Kali Zeeri (*Centrathium anthelminticum*), Harra (*Terminalia chebula*) fruit stone (Guthli), Kali Haldi (*Curcuma caesia*), Karayal (*Nigella sativa*) seeds, Nagkesar (*Mesua ferrea*) and Kaiphal (*Myrica esculenta*) seeds. Most of the herbs or herb parts are available in abundance, in surrounding forests. But for many herbs, Shri Verma is dependent on the herb vendors. The herbs present in surroundings are collected by adopting traditional harvesting method. He performs worship ceremony before its collection. The different herbs are collected at different days and times. According to Shri Verma, these traditional practices, increase the medicinal potential of herbs. All ingredients are dried and after drying, converted into fine powder. All ingredients are then mixed in equal proportion. As birth control measure, this combination is given in form of small globules (having size of Boir, *Ziziphus* fruits). The female partners are advised to take one globule after the start of menstrual cycle, once in a day upto seven days. Every time the dose is taken internally in same way. In general, the healer do not disclose the combination and give seven globules to the couples visiting to him. He is not in favour of taking more globules and its long term continuous use. This is the reason, the counted globules are given. He further informed that this Churan can be stored upto three months. I got opportunity to interact with the couples taking advantage of this Churan. They confirmed its promising effects. Very few traditional healers are aware of this formulation. The healers of Southern Chhattisgarh add Dhekna (Bed bug) in this combination, in order to make the formulation more promising. But this medicinal insect is added in very small amount.

For the botany, traditional and reported medicinal uses of all the herbs, please read my previous articles.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 147.
Kala Tendu Ke Shurbut.**

Kala Tendu is a local name of *Diospyros peregrina*. It is a small evergreen tree distributed throughout India. Its fruits are edible and dye, obtained from fruits is used for colouring cotton and timber, its bark is a source of tannin. In reference literatures related to different systems of medicine in India, Kala Tendu holds a reputed position. Its wood, bark, flowers, fruit and seeds are used as medicine. Kala Tendu Ke Shurbut is prepared by using its fruits. According to Ayurveda, its fruit is oleaginous, heating, astringent to bowels, cures ulcers and diseases of blood, urinary losses, stone in urinary tract etc. According to the Unani system of medicine, the fruit is aphrodisiac and tonic. The traditional healers of Chhattisgarh are well aware of these medicinal properties. They prepare and recommend this Shurbut for off-season use of Kala Tendu fruits. I have observed that the healers of Bilaspur and surrounding regions use the Shurbut more commonly. To prepare the Shurbut, the juice is extracted from fruits. The juice is added in freshly prepared Chashni (Syrup) and the mixture is kept under moonlight upto one week. After this duration, Shurbut is considered ready for use.

For the botany and traditional medicinal uses of Kala Tendu, please read my previous articles.

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Traditional medicinal knowledge about *Helicoverpa armigera* feeding on *Crotalaria* sp. in Chhattisgarh, India.

Many species of *Crotalaria* grows as wild plants in Chhattisgarh. *Crotalaria juncea*, commonly known as Sun or San, is under cultivation. Gram caterpillar *Helicoverpa armigera* is well known polyphagous insects that feeds on many agricultural crops as well as woody species. I have

mentioned in previous articles that the natives and traditional healers have in depth traditional medicinal knowledge about different uses of *Helicoverpa armigera*. They use the *Helicoverpa* caterpillars feeding on different plants for different purposes. According to them, the host plants play an important role in making the caterpillars medicinally rich. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Kanker region use *Helicoverpa* caterpillar feeding on *Crotalaria burhia* and *C. juncea* plants as medicine. The full fed caterpillars are used both internally as well as externally, in treatment of many common troubles. Before using the caterpillars to prepare the medicine, the traditional healers dip it in aqueous extract of Neem leaves for ten minutes and after this time period, dry it in shade. After drying the caterpillars are converted into powder. This powder is kept for future use. The traditional healers add this powder in popular herbal combinations used as blood purifier. According to the healers, the caterpillar powder plays very important role in enriching the herbal combinations. In treatment of pain, the healers use the powder in combination with Kanhar (Black) soil. The powder is mixed with soil and with the help of water an aqueous paste is prepared. This paste is applied externally on painful parts. I have seen its practical uses in treatment of Migraine (Headache). The healers suggest the patients having skin related troubles to smear the aqueous paste all over the body before bath and wash it after drying. The paste is having the capacity to absorb the extra heat from the body. The healers are not aware of its other uses. When I asked the traditional healers of other regions specialized in use of medicinal insects about these uses, they showed ignorance to it but assured me to try it in near future. Later when the healers tried the caterpillars, they found it equally effective, as claimed by the healers of Kanker region.

The medicinal uses of *Helicoverpa* feeding on *Crotalaria* species have yet not been reported in reference literatures. I am feeling proud to document this information.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 260. Tarwar Ke Sag.

Tarwar is a local name of *Cassia auriculata*. According to the reference literatures, it is a shrub that occurs throughout India. Its bark is used as tan. It is the principal indigenous tan bark used in South Indian tanneries. Tarwar is well known medicinal herb in Chhattisgarh. The natives and traditional healers have rich traditional medicinal knowledge about this herb. They use all parts of Tarwar alone or in combination with other herbs in treatment of diseases. Tarwar Ke Sag is prepared by using its flowers and flower buds. Many traditional healers consider this Sag (Curry) as promising substitute to curry prepared by using Dhanbaheer (Cassia fistula) flowers and flower buds. The traditional healers of Chhattisgarh, specialized in treatment of diabetes recommend the use of this curry to the patients as supplement to main treatment. This use is very popular among the traditional healers. Its popularity clearly indicates its effectiveness. The healers suggest the patients to prepare the curry using cow ghee. The natives of Tarwar rich regions of Chhattisgarh also consume this curry with taste but they prepare it by using cooking oil.

Material Required: Tarwar flowers and buds, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and it is kept on fire. Tarwar flowers and flower buds with all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Tarwar, please read my previous articles.

Traditional medicinal knowledge about Rice Black bug *Scotinophara* sp. in Chhattisgarh, India.

In Chhattisgarh, two species of Rice Black bug *Scotinophara* *coarctata* and *S. luriida* attack on Rice crop. It infests the base of Rice plants. The seedlings are preferred for information. According to the reference literatures, when grow-up plants are attacked and reduction in yield is noted. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the traditional healers of Chhattisgarh plains specialized in treatment of Mirgi (Epilepsy), very frequently use the Black bug as medicine. The adults are used most commonly. In form of dry powder the adults are added in herbal combination. This combination is burnt and patients are advised to inhale the smoke. Many times the healers use the dry insect alone for this purpose in same way. According to the traditional healers, the smoke provides great relief to the patients during attack. Also, in normal days the patients are advised to inhale the smoke atleast once in a week in order to delay further attack. Many healers informed that in small doses, the powder can be taken internally also, but most of the healers are not in favour of its internal use. In treatment of Mirgi, the adult bugs are used in another way. The full fed bugs are collected and boiled in base oil. When all watery contents evaporate the boiling is stopped and after filter, the oil is kept for future use. As base oil, Til (Sesame seed) oil is used. The special oil is massaged in sole of patients as treatment. According to the traditional healers, this massage is also beneficial for the patients as treatment. According to the traditional healers, this massage is also beneficial for the patients having mental depression. In order to increase the potential of special oil, many healers add medicinal herbs in it, but in most of the cases, the oil prepared from adult bugs serve the problem effectively. The Black bugs feeding on seedlings are considered more useful as medicine as compared to the bugs feeding on grown up plants. As mentioned earlier, the nymphs are preferred less. The traditional healers are not aware of other medicinal uses of Rice Black bug.

The name of Rice Black bug is not present in the list of medicinal insects mentioned in reference literatures. Many senior traditional healers informed that in early days when the medicinal rice varieties were undercultivation in different parts of Chhattisgarh the healers of that time were using the Rice Black bug feeding on specific medicinal rice variety as medicine in treatment of many complicated troubles. But now both the medicinal rice varieties and the healers are not with us. Through the on-going surveys, I am trying my best to gather more information on different medicinal uses of Rice Black bug in Chhattisgarh.

Thank you very much for reading the article.

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Some unique traditional ways of herb collection in Chhattisgarh, India.

One of my forester friends when went for the sleep at forest guest house after attending the first day of his job at Bastar region, at mid night, he saw many Mashal (Torches) moving very far inside the forest. As no one was there, by uttering mantras he passed that night. Next morning when he asked his junior about the secret of Mashal, they replied that these are the traditional healers that visit to dense forests for the collection of herbs. I have also observed the Mashal at night but not only the traditional healers, more groups of natives know the importance and power of night and perform different activities. These observations are common in other parts of Chhattisgarh also. As researchers, I decided to find out the reasons behind the visits of the traditional healers in dense forests at night. I have mentioned in previous articles that many medicinal herbs are collected by the traditional healers at full moon night but most of the healers prefer the dark nights for the collection of herbs. They give simple reason for it that on full moon night there is a chance of shadowing on the herbs during the collection. The shadow of healers reduces the medicinal potential of herb it is common belief. I have yet not found the scientific explanation for it. The full moon night is considered best for the collection of honey (Madhras). To note down all the details about some unique traditional ways of herb collection, I conducted a series of ethnobotanical surveys in different parts of Chhattisgarh. In present article, I am giving the details regarding some important observations.

During the interactions with the traditional healers of Bastar region I got information regarding the nature of medicinal herbs collected at different time periods in 24 hours. The healers informed that the diseases that aggravate during the day time can be managed more

promisingly from the medicinal herbs collected in day time. Similarly, the diseases that aggravate in night time like respiratory troubles, the herbs collected during night time play an important role in treating the trouble. They further informed me that the sunlight play a vital role in enriching the herbs collected in day time and same effect is posed by the moonlight at night. I have observed during the surveys that the traditional healers always ask the patients about the time when the trouble aggravates. As Homoeopath, I am aware of the importance of this question. In Homoeopathy, there is a lot of remedies that can be selected on the basis of time periods when the trouble aggravates. With the expectation that very soon our researchers will search the science behind it, I am disclosing the secret that after asking this question, the healers try to collect the herb or herbs at this specific period next day and patients are advised to come again for taking the remedy at the same time. In modern times it seems very difficult task but at traditional healers home surrounded with dense forests, where availability of herbs is not a problem, it looks feasible. I am agreed that in modern times when most of other medicines are available in form of commercialized products, it is not possible but in Chhattisgarh, still there are hundreds of traditional healers following the traditional practices with confidence and faith. The movement of Sun and Moon is a clock for the traditional healers. On the basis of interactions with the traditional healers of Bastar region I have prepared a list of three hundred herbs or herb parts that are collected at night. The healers have divided the night in three parts. Majority of herb are collected at mid night. The senior traditional healers informed that this is the time when the activities of wild animals are at peak and many times the expert (?) animals also visit to same place for consuming the medicinal herbs for specific purpose. If you are feeling it odd, I suggest you to read my previous articles and also consult modern wild life literatures to understand the medicinal knowledge, these animals are having, about common herbs. In general, the healers visit to the dense forest with many workers and for protection keep Mashal (Torches) prepared with local materials. The traditional healers of Sarguja region believe that the Mother nature has made Jugnu (Lightening beetles or Glow bugs) for them in order to help in selection of potential herbs. The traditional healers of Gandai-Salewara region informed that at night many herbs emit light and by this way, the Nature helps them in search. In Chhattisgarh, the presence of light emitting (i.e. bioluminescence) fungal species have been reported but these species emit very low light. These species grows in bark of certain trees, particularly in rainy season. The senior traditional healers explained that in full moon nights, many herbs present in open spaces give specific reflection. Through this reflection the healers collect the potential herbs. The healers of Chhattisgarh Plains tried to explain the reason of specific reflection through moving torches (Mashal) in dense forests. In general, the healers believe in case of specific herbs that higher the reflection higher will be the medicinal properties, the herb is having.

The traditional healers of Chhattisgarh specialised in use of insects as medicine are also aware of importance of night. You will be surprised to know that many diurnal insects are collected at night time and vice versa. The healers are well aware that where these insects pass its time

during rest. The bird species feeding on specific medicinal insects are also collected by using Mashal at night.

When I questioned the traditional healers about the relevance of the specific collection time, they replied that the herbs or herb parts collected at specific period possess more valuable properties and its results can be seen when it is used in treatment of patients. They further informed that the healers of young generation do not follow these precautions and instructions. As a result, they get little success in managing the troubles. I have searched the ancient literatures related to different systems of medicine in India but yet not found these details. Possibly, the writers and experts of ancient times were not aware of the unique traditional knowledge presented in Chhattisgarh. Through interactions with the senior traditional healers mostly over 85 years of age, I have collected the information on different time periods suitable for different herbs. The main problem is that all the healers are not aware of best time of collection for all the herbs. They are aware of only those herbs that are used in practice by them. Although, there are variations and confusion about some herbs, but in most of the herbs, the healers are having same view. Every healers said that why I have not came earlier when their senior were with them, with complete list of herbs. It clearly indicates that the majority of the traditional knowledge has been lost with the senior healers. I am preparing a detailed calendar on the basis of information collected from these healers, for the use of future generation. You will find it very soon at Botanical.com.

Although we have no scientific study according to modern norms but still I have full faith on the traditional healers and on these unique ways of herb collection. I am confident that the traditional healers around the world are also aware of traditional knowledge for the herbs present in their regions. This is a matter of surprise that why the research information from other parts of world is not coming among the world community. It seems nearly impossible but imagine the outcome of great interaction programme among the traditional healers of all parts of the world, sitting together and sharing their experiences for the welfare of human beings of whole world.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 259. Bavasir Bar Halwa.

Bavasir is a local name of common trouble Piles. The traditional healers of Chhattisgarh Plains prepare this sweet dish for this specific purpose. This dish is not much popular among the common natives. In this dish, Harra (*Terminalia chebula*), Bahera (*Terminalia bellirica*), Aonla (*Emblica officinalis*), Dhania (*Coriander*) and Chandrashoor (*Lepidium sativum*) are used as main ingredients. All these ingredients are available commonly in natural forests. The healers recommend this dish as supplement with main treatment of Bavasir. The patients are advised to take this dish once in a week preferably on Sundays. When the patients approach to the healers, they prepare this sweet dish for the patients without disclosing its secret formulation. I have found this dish not only very effective but also much delicious.

Material Required: All the above mentioned ingredients, Cow ghee, Gahun Ata (Wheat flour), Sugar, Chironji (*Buchanania lanzan*) etc.

Method of Preparation: Gahun Ata is taken in pan and with the help of cow ghee roasted well. All the ingredients are converted into powder and mixed in equal proportion. The mixture is added in pan and combination is roasted further. Sugar is added in form of Chashni (Syrup). After preparation of dish, Chironji is spread over it. The dish is served hot.

For the botany, traditional and reported medicinal uses of all herbs used as ingredients, please read my previous articles.

Some less known but promising traditional formulations of Chhattisgarh, India. 1. Bavasir Ke Dwai.

From this article, I am starting a new series on 'Some less known but promising traditional formulations of Chhattisgarh, India.' Through the ethnobotanical and ethnoentomological surveys conducted in different parts of Chhattisgarh, since 1994, I have collected the information on these traditional formulations. I have not only observed the method of its preparation but also got opportunities to meet and interact with the patients benefited from it. These are the miraculous effects of these formulations, that motivated me to include it in present series. These formulations are both single herb based or having many herbs. You will also find the formulations based on medicinal insects and animal parts. I have named it as less known after confirmation that the traditional healers of specific region or any particular healer are aware of its use. I have mentioned in previous articles that when I interact to the healers of any new region, I never miss to take their comments on herbal formulations I have collected from the other healers of other regions. These comments are communicated to the healers of other regions again. It is a continuous process. The less known formulations are those formulations on which the traditional healers of other regions have failed to give any comment, as those formulation were new to them. In present series, I will try to give the maximum details regarding the formulations. I am starting this series from the formulations that is very popular among the traditional healers of Durg region used in treatment of Bavasir (Piles).

When the patients approach to the traditional healers of Durg region for the treatment of Piles, the healers give them a special powder with instruction to use it in many ways. After roasting the powder in pan with the help of very little amount of cow ghee, the patients are advised to take a teaspoonful of powder twice a day. Once in a day, the patients are advised to burn the powder and expose the affected parts in fumes coming from the burning powder. The patients having the problem of bleeding Piles are suggested by the healers to prepare a decoction by boiling this powder in water and sit in a tub filled with this decoction. The other uses are common for these patients. The patients informed me that this powder cures the trouble effectively in very less time. Any guess for the contents? The patients are not aware but informed that it smells like some known things and in rainy season due to moisture, it smells very odd. While using this powder as medicine, the patients are instructed to avoid all types of fatty and spicy food materials. The traditional healers disclosed the formulation. According to them, this powder is

prepared by mixing Gilhari Mans (Meat) and Andi (*Ricinus communis*) leaves. Both ingredients are converted into fine powder. After complete drying in sunlight and mixed in equal proportion. Gilhari is a small creature and its English name is Squirrel. It is common animals throughout Chhattisgarh and well known among the natives of all age group. It is a good breakfast for the school going children. They kill it by (usually) long chase and after roasting, consume it with taste. The traditional healers are very less aware of its medicinal properties and uses but the healers using it in treatment of Piles, are aware of its promising uses. In reference literatures the external use of Andi leaves in treatment of piles is reported but its combination with Gilhari Mans and its internal use have yet not been reported.

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Herbal dishes of Chhattisgarh, India. 258. Burtundi Ke Sag.

Burtundi is a local name of *Morinda tinctoria*. It is under cultivation in many parts of Chhattisgarh. Its roots are source of red dye which is used for colouring linen and woolen goods. The natives and traditional healers are aware of its many medicinal uses and properties. Burtundi Ke Sag is prepared by using its green fruits. This preparation is very popular among the natives living in Burtundi rich regions of Chhattisgarh. The traditional healers consider this Sag (Curry) good for all types of internal injuries. According to them the use of green fruits of Burtundi as Sag increases the healing process. In Chhattisgarh, it is less used for medicinal purposes as other promising alternatives for internal injuries are available.

Material Required: Burtundi green fruits, Lason (Garlic), Tel (Oil), Hardi (Turmeric), Masale (Spices), Namak (Salt) etc.

Method of Preparation: The oil is taken in pan and pan is kept on fire. Burtundi fruits are cut into small pieces and all ingredients are added. The mixture is roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Burtundi, please read my previous articles.

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Traditional medicinal knowledge about *Aulacophora intermedia* feeding on Jowar, in Chhattisgarh, India.

According to the reference literatures Jowar (*Sorghum vulgare*) is one of the major millet crops of India. Its grains are used as food and stem and leaves are used as fodder. The sorghum grain is used as raw material in malting industry and also as source of starch in fermentation industry, for manufacturing industrial alcohol and acetone. Jowar is well known agricultural crop in many parts of Chhattisgarh. Many insects attack on different plant parts of Jowar.

Aulacophora intermedia, the Chrysomelid beetles are one of these insects. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Rajnandgaon region use the full fed adults and grubs of *Aulacophora intermedia* as medicine. The related species of *Aulacophora* are not used by these traditional healers. The healers informed that the beetles are used in combination with medicinal herbs in treatment of skin diseases. The herbal combinations having powdered beetles are used in form of decoction. The decoction is applied externally on affected parts. The healers have deep faith in the traditional uses of *Aulacophora*. I have observed during the survey, that many senior natives are also aware of this use. They are using the decoction of full fed beetles in treatment of skin related troubles in cattle particularly in rainy season. Although the traditional healers have no standardized way to prepare the decoction but I have noted that in general, the beetles and water are taken in 1:5 ratio and the solution is boiled. When half quantity (of initial quantity) of solution remains the boiling is stopped and decoction is used. Many times the healers mix the decoction with Kanhar (Black) soil and in form of aqueous paste use it in treatment of skin diseases. The healers further informed that in most of the cases when all common herbs and herbal combinations fail to cure the trouble, only in such cases the decoction of Beetles is used. The Beetles are used only during growing season of Jowar. The healers are not in favour of its off-season use. In off-season they use other insect species for treatment. The beetles collected from organically grown Jowar crops are considered fit as medicine.

The name of *Aulacophora intermedia* is not present in the list of medicinal insects in reference literatures. The unique use of this beetle is coming for the first time in front of world community through this article.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 257. Paninoi Ke Sag.

Paninoi is a local name of *Ipomoea hispida*. It is a herbaceous twining annual found throughout greater parts of India. It is common on hedges and grasslands. Although it is described as common weed in reference literatures, but the natives and traditional healers have in depth traditional medicinal knowledge about this herb. The healers use different parts of Paninoi alone or in combination with other herbs in treatment of many common as well as complicated diseases. Paninoi Ke Sag (Curry) is prepared by using its leaves and young shoots. The traditional healers recommend this preparation to patients having urinary system related troubles. The patients are suggested by them to take this curry alone with main treatment as supplement. Although the natives are not aware of its health benefits, but Paninoi Ke Sag is very popular among them. They consume it for its specific taste.

Material Required: Paninoi leaves and young shoots, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and pan is kept on fire. The leaves and young shoots are cut into small pieces and added in pan with other ingredients. The mixture is roasted well. The curry is served hot with Bhat(Cooked Rice).

For the botany, traditional and reported medicinal uses of *Ipomoea hispida* please read my previous articles.

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Traditional medicinal knowledge about Turmeric Beetles in Chhattisgarh, India.

Haldi or Turmeric (*Curcuma longa* syn. *C. domestica*) is a perennial herb under cultivation in many parts of India. Its rhizomes are used for food seasoning and as condiment. After harvesting, raw Turmeric rhizomes are cured properly before the commercial product is obtained. According to the reference literatures, India is the largest grower of Turmeric. Turmeric has wide medicinal uses. According to Ayurveda, Turmeric is pungent, bitter, heating, laxative, anthelmintic, tonic, alexiteric, emollient and improves complexion. It is useful in treatment of blood diseases, leucoderma, scabies, urinary discharges, inflammations, small-pox, swellings, sprains etc. According to Unani system of medicine, Turmeric is a bitter, carminative, maturant, diuretic, good for liver affections, jaundice, urinary discharges etc. Turmeric is well known herb in Chhattisgarh. Many wild species of Turmeric have been reported in natural forests of Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh I have noted that the traditional healers of Southern Chhattisgarh use the Turmeric beetles i.e. *Oryzaephilus surinamensis* (Linne), *Lasioderma serricorne* (Fab.), *Araecerus fasciculatus* De Geer and *Tribolium castaneum* (Herbst) as medicinal insects. These beetles feed on Turmeric rhizomes by making holes in it. According to the traditional healers these beetles, after feeding, possess 'refined' properties of Haldi (Turmeric). The healers use both grub and adults. After killing it, they dry it in shade and in form of dry powder keep it with them for use as medicine. Many healers dip the dead grubs and adults in herbal solutions in order to eliminate its toxic contents. The healers informed that the use of Turmeric in treatment of old wounds is having its own limitations. The dry powder of beetles gives more satisfactory results in many cases. The dry powder is used in same way like Turmeric powder. Many times it is used with Turmeric powder in order to increase its efficacy. The traditional healers of Southern Chhattisgarh specialised in treatment of different types of cancer, add the dry powder, prepared by mixing the full fed adults of all four species (mixed in equal proportion), in popular herbal combinations used to dress the cancerous wounds. The healers are aware that the dry powder plays an important role in these herbal combinations. Many healers consider the dry powder as promising tooth powder but as other promising alternatives, are available it is used less commonly. From documentation point of view it is an important information.

In reference literatures all Turmeric beetles have been described as problematic pest. The information on its traditional medicinal uses are coming for the first time among the world community. As very few traditional healers are aware of these traditional uses, I personally feel that it is essential to start a systematic research on different aspects of these medicinal insects without any delay.

Thank you very much for reading article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 146.
Kareer Ke Shurbut.**

Kareer is a local name of *Capparis decidua*. According to the reference literatures, it is a densely branching shrub or a small tree that grows on semi-rocky and rocky sites. It is well known herb in drier parts of India. The natives and traditional healers of Chhattisgarh are less aware of its medicinal properties and uses. The traditional healers of Chhattisgarh Plains are aware of Kareer Ke Shurbut. It is prepared by using its fruits. The healers recommend this Shurbut to the patients having poor vitality as tonic. The Shurbut is also considered beneficial for troubles related to respiratory system. To prepare the shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed to prepare the Shurbut. Once prepared in bulk, it can be used upto long time.

For the botany, traditional and reported medicinal uses of Kareer, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 256. Kumbhi ke Burfi.

Kumbhi is a local name of *Careya arborea*. It is a large tree occurring throughout India. The fibre from bark is used for cordage and sacking. The bark is also used as tan and dyes. Its leaves are utilized for making bidis. Kumbhi is well known herb in Chhattisgarh. The dense forests of Chhattisgarh are rich in natural population of this herb. Kumbhi ke Burfi is a sweet preparation prepared by using its seeds. This dish is not popular among the common natives. The traditional healers of Chhattisgarh recommend its use for specific purpose. The traditional healers of Bagbahera region, suggest the patients having snake bite to take this preparation upto long time in order to nullify the harmful effects of poison. In general, the healers use it to nullify the effects of all toxic materials present in the body. They are not aware of its other benefits. This specific use is decreasing its popularity and use in Chhattisgarh.

Material Required: Kumbhi seeds, Besan (Gram flour), Cow ghee and Sugar.

Method of Preparation: The seeds are roasted well. Separately, Besan is roasted in pan with the help of cow ghee. The roasted seeds are converted into powder and mixed with Besan. The mixture is roasted further. Sugar is added in this mixture in form of Chashni (Syrup). The thick solution is spread in plates and after drying cut into square pieces. Once prepared in bulk, it can be used upto long time.

For the botany, traditional and reported medicinal uses of Kumbhi, please read my previous articles.

Traditional ways to manage the Malaria: Some experiences at Chhattisgarh, India.

If we believe in official records, that the patients of Malaria are increasing at alarming rates in Chhattisgarh, then it is a matter of great concern. In Chhattisgarh, there is a separate department that handles the problem of Malaria and through awareness programmes and preventive measure tries to protect the natives from this problem. Like in Chhattisgarh, Malaria is a common problem in many parts of the world and every year hundreds of patients die due to this disease. At international level many organizations and experts are discussing about this trouble and every year producing new reports but the problem seems increasing. The increasing problem of Malaria encouraged me to meet and interact with the traditional healers, the real experts, in order to search the promising ways to manage the Malaria. I am hoping that the results of my interactions with the healers will be of great help for the planners around the world. This is the reason, I am writing this article.

Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have prepared a list of over 1200 traditional healers having natural remedies to cure the Malaria. These healers are using over 385 herbs alone or in combination with other herbs in treatment of this disease. I have written a lot about these formulations in my previous articles. When the healers were asked about their comment to check the increasing number of Malaria patients, the healers replied that the promising treatment of Malaria is not a solution. We have to analyze and search the reasons that why Mosquitoes, responsible for Malaria are increasing. The senior traditional healers informed that in early days the problem of Malaria use not a serious problem. The tribals living in dense forests far from civilization are still fighting with malaria with great success. Many healers believe that the modern life has reduced our natural capacity to fight with disease. Few months back, I visited the Kalahandi region of neighbouring Orissa state. The natives informed that this region is red zone for Malaria and when any officer get posting in this region, they get special Malaria allowance. The authorities blame the stagnant water as a source for Mosquito breeding. In Chhattisgarh and Orissa, due to heavy rainfall, the problem of stagnant water bodies is common. The traditional healers are not agree with these comments. According to them, if any component or part of natural ecosystem is increasing in number very rapidly it means the ecosystem is not in balance. During interactions the traditional healers informed about many natural insects and small animals with their local names that feed on Mosquitoes and its larvae. We visited to nearby ponds to collect and identify these creatures. Later, when I searched the reference literatures regarding use of these creatures in management of Mosquitoes, I got no reference. I am in process of its more specific identification

and conducting small studies for scientific confirmation. The traditional healers further informed that these creatures were in abundance in early days, now it takes time to search it. The traditional healers are unable to give the exact reason that why these friendly creatures are decreasing but they blame the total destruction of forest for this reduction. A senior traditional healer of Nagri-Sihawa region tried to correlate the destruction of forest cover to the higher number of Malarial patients in particular region. I requested one of the my forester friends to conduct a specific study to provide this correlation, a scientific base. The results of his initial studies showed that the healers observation is true to the great extent. At present we are discussing about the Malaria problem in forest areas. You can simply imagine the position of our cities where there are no forest cover and no friendly creatures. Where the authorities are dumping pesticides to kill the larva and adults but day by day the Mosquitoes are becoming more and more resistant. The pesticides that are applied are causing damage to Mosquitoes, human beings and also to friendly creatures. During my surveys at Pendra region, the traditional healers informed that the group of trees present in nature plays an important role in balancing the natural population of Mosquitoes. For verification, we visited to nearby forest with Mosquito collector. We found different population under different trees and observed that if the population near a tree is low then the same trend exists to every where the same tree species is present. Because of these tree species, according to the healers, the natives living in dense forests are still getting protection from Malaria. In short visit, I prepared a list of thirty such trees under or around which the mosquito population was very low as compared to the other trees. Dikamali (*Gardenia gummifera*) is one of these promising trees. Many healers of Kargi road region told that the natives living in urban areas are planting exotic ornamental herbs that shelter these insects instead of controlling its population. For these natives the home gardens with exotic herbs are becoming a curse. Many exotic herbs also possess Mosquito killing or repellent properties but when the agrochemicals are added in home gardens these herbs lose its natural property. I am confident that this information will be of great value for the researchers engaged in search of new methods for Malaria Management. The traditional healers further informed that although the natives have rich traditional knowledge about the common herbs and herbal combinations that can repel away the Mosquitoes effectively, but they are not in favour of using repellent. According to them, the use of repellent in large amount forces the Mosquito population to resist it and this is the reason after sometimes we need more powerful repellent. The healers suggest the rotation of repellents. They give the example of Chhattisgarh natives. The natives use different herbs in different seasons. The herbs growing in winter season are not used to repel the mosquitoes in summer. If you think it more deeply, the healers explained that the herbs recommended by Mother Nature for use in winter season are when used, it aids in good health also. Its off-season use does not possess the same properties. The companies engaged in preparation of mosquito's repellents having agrochemical Allithrin are not aware of this in depth knowledge. In urban areas the natives are using Allithrin based repellents daily 18-20 hours round the year. The natives are not sure that whether it is repelling all the Mosquitoes or not but now they are facing respiratory troubles due to the regular non-stop use of these repellents. But they have no other way to get protection from Mosquitoes bites. The traditional healers claim that the natural repellents are far better than these synthetic repellents. But the wise natives are taking the benefit from this traditional knowledge. We all are facing the problem due to synthetic repellents but as it is printed in the product that it is safe, so we educated

natives are believing in it but what the healers are suggesting, is putting big question mark that whether it is good for the health or not? This is the our education that has made our life troublesome. I personally feel that there is a strong need to utilize the traditional knowledge our healers are having to manage the Mosquitoes. I am aware that a single herb or herbal combination can not solve the problem and we have search different herbs for different regions but if we will request the healers to guide us, we can solve this problem easily.

During the Ethno-entomological surveys when the healers informed about medicinal insects, I never miss to ask about the medicinal uses of Mosquitoes. I have got no success in this search but I am expecting that the healers will search the medicinal uses of Mosquitoes, that will help in managing this problem automatically. Possibly, the Mosquitoes flying around me have started reading this article. It is better to stop writing before they start biting with anger.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 145. Hatkan Ke Shurbut.

Hatkan is a local name of *Leea macrophylla*. According to the reference literatures, it is a perennial shrub occurring throughout the hotter parts of India. Its roots are used as remedy for ringworm and in cure of guinea worm. Hatkan is well known herb in Chhattisgarh. In different parts of Chhattisgarh, it is known by different names. The natives and traditional healers are aware of its medicinal properties and uses. Hatkan Ke Shurbut is prepared by using its Black fruits. The natives consume its fresh fruits with taste. For off-season use Shurbut is prepared. According to the senior natives and traditional healers, this Shurbut is a boon for the patients having troubles related to respiratory system. The patients having phthisis are instructed strictly by the healers to take this Shurbut, along with main treatment. To prepare the Shurbut, the juice

of fruits is collected. Many times the decoction of fruit is also used. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are added, to make the Shurbut. Besides the recommendation of the healers, the natives also consume this Shurbut as health drink.

For the botany, traditional and reported medicinal uses of Hatkan, please read my previous articles.

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Traditional medicinal knowledge about Desert Locust feeding on *Calligonum polygonoides*, in Chhattisgarh, India.

Phog (*Calligonum polygonoides*) is an evergreen xerophytic shrub that commonly grows in semi-arid and arid zones of Rajasthan and adjoining desert belt. Its roots and thick branching stems are used as fuel and tender green Phyllodes (modified stems) form fodder for camels. The flower buds are considered to be effective in treating sun stroke. Phog is not much known herb in Chhattisgarh. It is present in isolated patches in Chhattisgarh. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, when I found the dead bodies of Desert Locusts with the herb vendors coming from Rajasthan state, out of curiosity, I asked them about the purpose of keeping the dead locusts. The herb vendors informed that many traditional healers of Chhattisgarh purchase this desert locust from them. Later, I got opportunity to interact with ten traditional healers that are using Desert Locusts as medicine. Most of the healers add the dead locust in form of dry powder in different herbal combinations. The herb vendors informed me that the healers purchase the locusts collected from Phog trees only. The full fed locusts are collected. Many healers ask for live locusts but the vendors supply the dead locusts only. The traditional healers do not want to disclose the medicinal properties and uses of dead locusts. After informing them about the importance of on-going documentation work, they informed that the dead locusts feeding on Phog helps in increasing the body

resistance, to the great extent when added in herbal combinations used as tonic. The presence of locusts, helps the patients to get protection from many troubles round the year. The healers informed that they use locust after purification. Many healers claim that in herbal combinations given to the patients after cure of cancer, these locusts play an important role. The healers have deep faith in these traditional uses. The matter of surprise is that the healers are aware of insects and herbs, that are not common in Chhattisgarh. They are practicing this traditional knowledge since generations. I am trying my best to get the information that whether the traditional healers of Rajasthan are aware of these uses or not?

The traditional medicinal uses of Desert Locust have yet not been reported in reference literatures. These uses are coming among the world community, for the first time, through this research article.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 255. Kareer Ke Sag.

Kareer is a local name of *Capparis decidua*. It is a leafy, diffuse, much branched spinous shrub or small tree. It is less known medicinal herb in Chhattisgarh. Kareer Ke Sag (Curry) is prepared by using its flowers. This preparation is not much popular common the common natives. The traditional healers of different parts of Chhattisgarh use this curry for different purpose. According to the traditional healers of Chhattisgarh Plains, the regular use of this curry helps in maintaining the heat balance inside human body. It is helpful in treatment of common troubles due to excessive body heat. The traditional healers of Bilaspur region consider this preparation beneficial for gynaecological troubles. According to the healers of Narharpur region, the internal use of Kareer regulates the function of digestive system.

Material Required: Kareer flowers, Garlic (Lason), Tel (Oil), Hardi (Turmeric), Namak (Salt), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and it is kept on fire. The Kareer leaves and all other ingredients are added and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Kareer, please read my previous articles.

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Traditional medicinal knowledge about Cetonid beetle *Oxycetonia versicolor* Fab. feeding on Brinjal, in Chhattisgarh, India.

Bhata or Brinjal (*Solanum melongena*) is a well known vegetable crop in Chhattisgarh. It is under cultivation in fairly large areas. The natives consume the fruits of Brinjal as vegetable and use different cooking methods to prepare delicious curries from these fruits. Brinjal is also considered as medicinal herb in Chhattisgarh. The senior natives and traditional healers have in depth traditional medicinal knowledge about this herb. Many insects attack on Brinjal crop and as a result, the vegetable growers use heavy amount of agrochemicals to manage these insects. I have mentioned in previous articles that the traditional healers of many parts use the insects feeding on Brinjal plants as medicine. The insects collected from organically grown Brinjal crop are only used as medicine. During the recently conducted Ethno-Entomological surveys in different parts of Chhattisgarh, I have noted that many traditional healers of Bilaspur region use the adults of Cetonid Beetles *Oxycetonia versicolor* as medicine. The healers collect the full fed beetles from Brinjal plants and after killing, dry it in shade. After complete drying the beetles are dipped in the leaf decoction of undamaged Brinjal plants. Two hours after the dipping, the beetles are dried and converted into powder. This powder is used as medicine. According to the traditional healers, the powder possess valuable analgesic properties. In form of aqueous paste, they use it as external remedy in treatment of Headache. The paste is applied on affected parts. Many times the healers use this powder in combination with medicinal herbs, in order to increase its effects. Many traditional healers consider this powder very useful

in treatment of Bavasir (Piles), specially incase of bleeding piles. According to them, its application with Blumea lacera leaves stops the bleeding in very less time. The healers also add the beetle powder in popular herbal combinations used internally in treatment of many common as well as complicated troubles but as traditional secret they are not ready to disclose the formulations. As in case of other medical insects, the traditional healers do not consider the beetles collected from chemically grown Brinjal fields, suitable for the preparation of medicine.

The above mentioned traditional medicinal uses of Cetonid beetle feeding on Brinjal herbs have not been reported in reference literatures. As these beetles are considered as problematic pest, I am confident that the traditional medicinal knowledge about the utilization of this beetle will of great use for the researchers working on management aspects.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 144. Angaru Ke Shurbut.

Angaru is a local name of *Diospyros ferrea* (syn. *Maba buxifolia*). It is a well known tree in Chhattisgarh. The natives and traditional healers are aware of its many medicinal uses and properties. Angaru Ke Shurbut is prepared by using its matured fruits. Among the natives, the raw fruits are popular. The traditional healers of Chhattisgarh, aware of health benefits of Angaru Ke Shurbut, use the raw fruits to prepare the Shurbut for off-season use. This Shurbut is considered promising in treatment of blood related troubles. Many healers consider it as promising tonic. In general, the healers prepare this Shurbut in bulk at their homes and give it to the patients visiting to them, in small quantities. The healers have deep faith in this Shurbut and its efficacy as medicine. To prepare the Shurbut, the juice is extracted by crushing the fruit pulp. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed and the combination is kept under moonlight upto a week. After this duration, the Shurbut is considered prepared for use.

For the botany, traditional and reported medicinal uses of Angaru, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 254. Tale Makhana.

Makhana is a local name of *Euryale ferox*. According to the reference literatures, Euryale is an aquatic herb found in many states of India. Its leaves are floating. The fruits are round and prickly at the size of an orange containing 8-20 seeds. The seeds, locally known as Makhana, of this aquatic herb are roasted and eaten and also used as a substitute for arrow root. Makhana holds a reputed position as medicine and food supplement, in reference literatures related to different systems of medicine in India. Makhana is used as tonic and for its astringent and obstruent properties. Tale (means roasted) Makhana is a popular break fast among the rich natives of Chhattisgarh. The high price of these roasted seeds has limited its use of rich natives. The traditional healers of Chhattisgarh are well aware of its health benefit. They add the raw seeds as main ingredient in popular herbal combinations used as sex tonic. Makhana is specially recommended to the newly wed couples by them. The patients recovering from exhaustive diseases are also suggested by the healers to take these seeds to gain the vitality again. Tale Makhana is prepared by simply roasting the seeds in pan. For taste, Namak (Salt), Kali Mirch (*Piper nigrum*) etc. are added. Once prepared in bulk it can be stored upto long time.

For the botany, traditional and reported medicinal uses of Makhana, please read my previous articles.

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The traditional healers of Chhattisgarh: A last hope for the patients of urban areas suffering from Sickle Cell Anaemia.

Today the local newspapers of Chhattisgarh have published a shocking news that over seventeen percent natives of total population of Chhattisgarh are suffering from Sickle Cell Anaemia in the state. The newspapers have given emphasis on preparation of plans to manage this trouble in the state. This shocking figure motivated me to write a special article on this troubles with my experiences.

Although I am writing continuously about the information regarding traditional medicinal uses of common herbs and insects present in Chhattisgarh. And the whole world is appreciating and recognizing the in depth traditional knowledge the healers, and natives are having but it is a bitter fact that the state authorities still consider these traditional healers as quack and not recognizing their great knowledge. Officially all troubles are treated with modern systems of medicine and many of the Ayurveda practitioners are practicing Allopathy. The high number of Sickle Cell Anaemia patients is a result of the failure of modern systems of medicine. The natives of urban areas are dependent on these modern systems and this is the reason, the higher number is from urban areas. The traditional healers of Chhattisgarh are not only aware of this disease but they are treating the patients successfully through their traditional knowledge. This is the reason, the patients having Sickle Cell Anaemia are less in rural areas where the patients have still faith in traditional healers.

When I was working as researcher at Indira Gandhi Agricultural University, one of our staff members Shri Sahu from Entomology Department, informed me that his daughter is suffering from Sickle Cell Anaemia, locally known as Sickling. Aware of my interest and research on medicinal herbs, he requested to help him in treatment of Sickling. I suggested him to contact Allopath doctors because at that time I was not sure whether our healers are aware of its

treatment or not. Shri Sahu replied that the Allopaths have surrendered with comment that only four-five years are remaining in daughter's life. On my request, he consulted the Allopath doctors again but got the same response. Few months back when I asked him about the daughter's health. Shri Sahu replied that she is taking the treatment from traditional healer. When she was taking the Allopathy, she has to go for blood transfusion every month. At that time, I was the founder member of Rotaract club of Agriculture College and I was maintaining a complete directory of blood groups. of all the staff members my directory was of great help of Shri Sahu. When he started treatment from the traditional healers, he informed that there is no need of blood transfusion and his daughter is feeling great relief. For him the Allopathic treatment was very costly. He informed that the healer was not taking any fees, very soon his daughter got control over sickness. Today Shri Sahu is telling all the sufferers to go for traditional treatment. This encouraging result motivated me to prepare a list of traditional healers of Chhattisgarh specialized in treatment of Sick Cell Anaemia. As a result, today I have the list of over 550 such traditional healers. It is a bitter fact that many qualified practitioners of modern systems are now dependent on the traditional formulations and by filling the formulations in empty capsules, they are giving it to the patients as Allopathic treatment. If you remember, in previous articles I have mentioned that how the traditional healer of Mudpar village Shri Hanumat Prasad Verma are treating the Sickling patients without taking any charge and also how the practitioners at metro cities are collecting the herbal powder from him. I have a simple question to the modern practitioners that why aware of all facts, we are not giving honour and recognition of our traditional healers having in depth knowledge to manage this problematic disease ? Through the interactions with the traditional healers of Chhattisgarh, I have collected the information on over 39 herbal formulations that are used as sure cure for Sickling. In these 39 formulations about 180 medicinal herbs are used. Many healers are using medicinal insects also for treatment. I have noted during the surveys that many healers are not ready to disclose the formulations. There are hundreds of such secret formulations. The great thing is that they are using these formulations successfully and not charging any fees from the patients. It is due to the presence and services of these traditional healers that the natives living in rural areas are getting good treatment from beginning. The natives living in urban areas at first visit to the modern practitioners and as last hope visit to the traditional healers. In majority of cases, the traditional healers manage the trouble. Although it is difficult for the healers but on my request many traditional healers are maintaining records of patients who have got complete cure. These records are proof of the healers claim. As researcher, I feel that the records are essential but the traditional healers are not interested in it. They do not bother what the modern practitioners are doing. They are performing their duties sincerely and serving the patients coming to them. They are not aware of scientific details of this disease. They diagnose the disease on the basis of symptoms and complete examination of patients using traditional methods. Their aim is to cure the patients, whatever will be the name of the disease. Many times on the basis of e-mail inquires when I ask the healers to give the herbal remedies for Sickling, they refuse to pay attention and strictly instruct me to bring the patients, atleast for the first time. Many healers informed me that for different patients they use different formulations. By regular interactions with them, I am trying my best to understand their ways of treatment. I am aware that within few years, I will become a living witness of these traditional practices, when all these healers will pass away without getting the recognition and honor they deserve. I am also aware that before

reaching to this situation, I have to inform the world community about them with hope that any one from the community will come forward to honour their great work and contribution to whole humanity. I am arranging the 39 formulations properly and planning to start a new series of research articles based on different aspects of these formulations at Botanical.com.

While surfing on internet, I have noted that the problem of Sickle Cell Anaemia is present in many countries. I am confident that the traditional healers of these countries are having sure cure for this disease. Through this article, I would like to request the concerned authorities to invite and associate these traditional healers with their programmes on Sickle Cell Anaemia management. The same response I am also expecting from the authorities of my country.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 143. Jamrul Ke Shurbut.

Jamrul is a local name of *Eugenia formosa*. Although the herb collectors and traditional healers claim that this tree is present in Chhattisgarh but the reference literatures on flora do not support it. I have also not seen it in wild. According to the reference literatures, it is a tree found in Assam and other Himalayan regions. Jamrul Ke Shurbut is prepared by using its matured fruits. I have observed that the herb vendors coming from Himalayan region keep this Shurbut with them. They give it to the traditional healers of Chhattisgarh and in exchange collect the herbs that are not common in their regions. The traditional healers are aware of the medicinal properties and uses of this Shurbut. It is considered beneficial in treatment of patients having urinary system related troubles. The healers are in favour of its long term use but limited

quantity of Shurbut is a big constraint. This is the reason the healers recommend this Shurbut in very specific cases. Many herb vendors selling this Shurbut informed me that it is prepared by common method. It is the availability of fruits that is a constraint. To prepare the Shurbut, the juice is extracted by crushing the fruit pulp. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The fruit juice and Chashni are mixed thoroughly. The combination is known as Jamrul Ke Shurbut. Once prepared in bulk, it can be stored upto long time.

For the botany, traditional and reported medicinal uses of Jamrul, please read my previous articles.

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Traditional medicinal knowledge about Tussock caterpillar *Porthesia xanthorhoea* (Kollar) feeding on medicinal rice variety Bhejri in Chhattisgarh, India.

Chhattisgarh is known as 'The Rice bowl of India'. Chhattisgarh is considered as one of the origins from where Rice has spread all over the world. The state is rich in Rice diversity. In earlier days, many rice varieties of medicinal importance were under cultivation in Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about the medicinal varieties. In many parts of the Chhattisgarh, the healers are still using medicinal rice varieties, to treat many common diseases. During the Ethno-entomological surveys conducted in different parts of Chhattisgarh, I have observed that the senior traditional healers of Chhattisgarh Plains aware of medicinal rice varieties use the insects feeding on these varieties as medicinal insects. Through the interactions with the traditional healers, I got information on some unique uses of Tussock caterpillars feeding on medicinal rice variety Bhejri. I have mentioned in previous articles that the grains of Bhejri are used for early removal of placenta in case of cattle. The grains are given in combination with Linseed and Gud (Jaggery) internally. Tussock caterpillars feed on rice leaves. According to the traditional healers the caterpillars collected from organically grown rice plants are collected and after killing, the caterpillars are dipped in decoction, prepared by boiling the Bhengra (*Eclipta alba*), a common rice weed,

leaves in water. After one hour, the caterpillars are taken out and dried in sunlight. After complete drying, by crushing, powder is prepared. The powder is stored for future use. The traditional healers use this powder both internally as well as externally in treatment of many common troubles. The powder is added as main ingredients in popular herbal combinations used to stop all types of bleeding. According to the healers, the powder plays an important role in these combinations. In combination with medicinal herbs, this powder is used internally in treatment of Safed Pani (Leucorrhoea), a common trouble in women. Externally, in combination with Kukronda (Blumea lacera) leaves, Kali Mirch (Piper nigrum) and Cow ghee, the powder is used in treatment of Bavasir (Piles). Its regular use not only checks the bleeding but also helps in reducing the intense pain. At present, Bhejri is not under cultivation in Chhattisgarh. The Tussock caterpillars feeding on other rice varieties are not considered suitable by the traditional healers. This is the reason, the use of Tussock caterpillars as medicine is becoming a thing of past. The traditional healers when informed about the medicinal insect of Bhejri, I showed them the coloured photographs of Rice insects around the world. They identified Tussock caterpillars as Bhejri Kidwa. I have yet not seen its practical uses. The senior traditional healers, most of them are over 80 years old, are eager to demonstrate the efficacy of medicinal insect. Their deep faith in the traditional uses are enough to convince me.

The traditional medicinal uses of Tussock caterpillars on medicinal rice variety Bhejri have yet not been reported in reference literatures. I personally feel that there is a strong need to popularize these promising uses after systematic research.

Thank you very much for reading the article.

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Soli is a local name of *Aeschynomene* sp. According to the reference literatures, Soli is a tall, perennial shrub with wide distribution. In Chhattisgarh, it grows as weed. According to the senior natives, this weed is introduced in Chhattisgarh with sheep herds coming from Rajasthan state. This herb has established in Rice fields bunds and its thick growth is suppressing the growth of native flora. The natives and traditional healers of Chhattisgarh have welcomed this guest and they have developed its many promising uses by living with them. The traditional healers are now using it as medicinal herb. Soli Ke Sag (Curry) is prepared by using its leaves. It is popular preparation among the poor natives. The traditional healers consider the curry prepared from newly emerged leaves very useful as medicine to flush out all the toxic materials from the body. It is also given to the patients having the problem of constipation. The curry is given in small doses as larger doses may results in stomach upset.

Material Required: Soli leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: The oil is taken in pan and it is kept on fire. The Soli leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Soli, please read my previous articles.

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Traditional medicinal knowledge about Bathua (*Chenopodium album*) leaves with *Helicoverpa armigera* eggs, in Chhattisgarh, India.

Bathua (*Chenopodium album*) grows as winter season weed in Chhattisgarh. Its grows commonly in wheat and gram fields. Although it is mentioned as problematic weed in reference literatures but for the natives and traditional healers of Chhattisgarh it is a valuable medicinal herb. They use all parts of Bathua as medicine. Bathua holds a reputed position as medicinal

herb in different systems of medicine in India. According to Ayurveda, the whole plant of Bathua improves appetite. It is oleaginous, anthelmintic, laxative, diuretic, aphrodisiac, tonic and useful in biliousness, abdominal pains, eye-diseases, throat-troubles, diseases of heart, spleen and heart. Every year a common agricultural pest Gram pod borer *Helicoverpa armigera* attacks Bathua plant and the adults lay eggs in abundance on the leaves. During the ethnoentomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Nagri-Sihawa and Kanker regions use the Bathua leaves having *Helicoverpa* eggs as medicine in treatment of many common troubles, externally. I have mentioned in previous articles that the traditional healers of Chhattisgarh use the eggs of many insect species as medicine. The use of eggs of *Oecophylla* sp. is one of the promising examples. The eggs are used both alone and in combination with host plant parts as medicine. The traditional healers of Nagri -Sihawa and Kanker regions use the Bathua leaves having *Helicoverpa* eggs, in form of aqueous paste externally in treatment of Safed Dag (Leucoderma). According to the traditional healers it is promising remedy at initial stages. At later stages, they use the aqueous paste with the internal treatment. The healers boil the leaves with eggs in water and prepare a decoction. The patients having the problem of lice are suggested by the traditional healers to wash the hairs with this decoction in every three days. As the leaves and eggs are available at specific period in a year, there is a limitation of its use. This is the reason the healers suggest the patients to never miss the chance of utilization of leaves and insects during availability season. The traditional healers are unable to give the specifications that how much eggs should be used with one leaf. I personally feel that there is a need of standardization of doses through systematic research. The traditional healers are not aware of its internal use. According to them, they are practicing this important knowledge sincerely without any modification since time immemorial. Their deep faith in these uses and its popularity among them clearly indicates its efficacy.

The traditional medicinal uses of *Helicoverpa armigera* eggs with Bathua leaves have yet not reported in reference literatures. Through the on-going ethnoentomological surveys I am trying my best to gather more information on this aspect. You will find the details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 142. Bilanga Ke Shurbut.

Bilanga is a local name of *Flacourtia indica*. It is a common thorny bush or small tree. Bilanga holds a reputed position as medicinal herb in reference literatures related to different systems of medicine in India. The natives and traditional healers of Chhattisgarh are aware of its presence. The traditional healers use its alone or in combination with other herbs in treatment of many common diseases. The natives consume its fresh fruits. Bilanga Ke Shurbut is prepared for the off-season use of fruits. According to the traditional healers, this Shurbut is a boon for the patients having spleen and liver related diseases. The patients having these problems are suggested by the healers to take this Shurbut round the year with the main treatment. To prepare the Shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed and Shurbut is prepared.

For the botany, traditional and reported medicinal uses of Bilanga, please read my previous articles.

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Herbal dishes of Chhattisgarh, India, 252. Bitmara Ke Sag.

Bitmara is a local name of *Gardenia campanulata*. It is a large, spiny shrub or small tree distributed in many parts of India. In Chhattisgarh, it is well known herb. The natives and traditional healers are aware of its many medicinal properties and uses. The natives of Chhattisgarh migrated from the neighbouring state Bihar, frequently use Bitmara Ke Sag (Curry). It is prepared from its leaves. These natives are aware of its health benefits also. According to them, the regular use of this curry flushes out the intestinal worms effectively in very less time. The natives consume it with taste. They prepare it by using different methods.

The traditional healers of Chhattisgarh have confirmed its promising effect in treatment of intestinal worms. They are not aware of its other health benefits.

Material Required ; Bitmara leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and it is kept on fire. The Bitmara leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Bitmara, please read my previous articles.

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The new information on traditional medicinal uses of common insects: A good sign.

The recently conducted ethno entomological surveys in different parts of Chhattisgarh revealed that besides the traditional medicinal knowledge about herbs, the natives and traditional healers are aware of many promising medicinal uses of insects. Through these surveys I have identified a separate community of traditional healers, using medicinal insects and animal parts more commonly than the herbs and herbal combination. I have written many recent articles focused on these traditional healers and their in depth traditional knowledge in Chhattisgarh. The information I have given in these articles is about the common insects present in our surroundings and the insects attack on agricultural crops, but through the surveys I collected the unique information regarding forest insects and at present, I am in process of identification of these insects true to the species. After writing over thirteen hundreds articles on herbs, I came

to know that the natural forests of Chhattisgarh are more rich in insect species than the herb species and unfortunately, no one is working in the field of its identification and documentation of traditional knowledge about it. The information given in recent articles is absolutely new information and reaching to the world community for the first time. I have noted while interacting with the entomologists around the world, that very few researchers are working in the field of Insect utilization. The experts associated with Agricultural Entomology are engaged in evaluation and development of agrochemicals to destroy the insects and like weed scientists, they are not ready to think in the direction of utilization of insects having medicinal value for the benefits of human beings. Their negligence has established me as one of the established Ethno-entomologists but I am not happy with it. I am documenting the traditional knowledge about medicinal insects with hope that the researchers from young generation will come forward and give their valuable contributions to enrich the science of Ethno-entomology.

Through the surveys, I observed that the traditional healers are not only using the insects alone as medicine but they are using its excreta and even the excreta of Bird species feeding of these insects. When the recent article on Allelopathic potential of the excreta of Bird species feeding on *Chrysolina* leaf beetle appeared in Botanical.com, I got encouraging responses around the world. Many entomologists have written that the unique methodology adopted in this study, is a new way through which in depth studies on various aspects can be done. The researchers are also surprised with the in depth traditional knowledge about the excreta of insects, the traditional healers of Chhattisgarh are having. They wrote that in this world, there are thousands of plant species exist and many thousand insect species are dependent on these plant species. The new approach of the traditional healers has opened a new door on which our researchers can focus their studies and discover the potential medicines that can root out the diseases from the world. The traditional healers of Chhattisgarh specialized in use of insects as medicine always say that the plant species on which the insects feed, play an important role in making the insects medicinally rich. In the recent articles, I have mentioned the specific criteria the healers use to identify the potential insect among other insects.

Initially, I hesitated to put all the information on unique uses among the world community. But the confidence of the traditional healers and my interactions with the patients getting relief from these insect based formulations encouraged me to document the information without any delay. The traditional healers informed that no one has never asked them about their knowledge regarding insects. As the use of insects as medicine is not agreeable to all the patients, the traditional healers do not disclose the formulations to the patients. During interactions, many healers kept some formulations as secret and not showed interest in sharing the knowledge. Many of these formulations are capable of treating complicated diseases that are very difficult to treat by herbs and herbal combinations. I am satisfied that this important traditional knowledge

is in use at least and the healers are ready to transfer it to the representatives of young generations.

As researcher I see another angle of this vital information. I want to search the potential uses of crop pest and to prepare marketable products from it so that like weeds, the farmers can also earn with these so called enemies. The utilization can not only provide them an additional income but also the use of agrochemicals can be minimized. Very few natives of Chhattisgarh are earning from the medicinal insects at present. The main reason of its limited number is, that the knowledge is restricted to few natives. I have identified many potential buyers of these medicinal insects. Many pharmaceutical companies are eager to start a research to prepare insect based medicines. I am confident that in near future we will be able to present a model, among the world community.

As you know, many countries around the world are establishing and preparing plant databases. Unfortunately, there is no database on Insect Utilization and traditional knowledge about the insects around the world. One of my dreams is to establish such database with complete information. This database will be of great value for the coming generations. I am expecting that the young researchers will come forward and take the lead.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 251. Pitti Ke Burfi.

Pitti is a local name of *Ventilago madraspatana*. It is a common climbing shrub found in almost all parts of Chhattisgarh. The root bark is source of red dye ventilagin which is used for colouring cotton and tassar silk. Its roots are used as medicine. Pitti Ke Burfi is a sweet preparation prepared by using its seeds. For the first time I got information about this preparation, from Shri Vishal Bharat, a well known traditional healer of Bastar region. He was using this preparation in treatment of fevers. I have yet not observed its use in other parts of Chhattisgarh. As Shri Bharat is not with us, the use of this preparation is also losing its popularity. This observation motivated me to document the information regarding this dish without any delay. Shri Bharat was using this preparation as supplement treatment with main treatment.

Material Required: Pitti seeds, Besan (Gram Flour), Cow ghee and sugar.

Method of Preparation: The seeds are roasted. Separately, the Besan is roasted in pan with the help of cow ghee. The roasted seeds are added in powder form with Besan, and the mixture is roasted further. Sugar is added in this mixture in form of Chashni (Syrup). The thick solution is spread on plates and after drying cut into square pieces. Once prepared in bulk, it is used upto longtime.

For the botany, traditional and reported medicinal uses of Pitti, please read my previous articles.

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**Traditional medicinal knowledge about Tobacco caterpillar *Spodoptera litura* (Fab).
[Noctuidae : Lepidopera] feeding on Jam fruits, in Chhattisgarh, India.**

Jam (*Psidium guajava*) is well known for its edible fruits in Chhattisgarh. This fruits tree is a native to Central America but now it is under cultivation in almost all parts India. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about Jam tree. They use its all plant parts both internally as well as externally in treatment of many common diseases. During the ethno entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Bastar region use the caterpillars of *Spodoptera* feeding on Jam fruits as medicine. According to the traditional healers, the full fed caterpillars are having the capacity to absorb the extra heat from the parts from where it are applied in form of aqueous paste. For preparing the paste, the healers use freshly collected caterpillars. The mix the caterpillars with the Kanhar (Black) soil and prepare a paste. The patients having intense headache, are advised by the healers to apply the paste on affected parts. It is considered as one of the promising treatments. In case of immature boils, the same paste is applied frequently in order to absorb its Garma (heat) and suppress it. The traditional healers of Chhattisgarh Plains aware of this combination add Kukronda (*Blumea lacera*) leaves to make the combination more promising. I have mentioned in previous articles that in many parts of Chhattisgarh, the healers use *Spodoptera* caterpillars feeding on other herbs, internally as medicine. The traditional healers of Bastar region are not in favour of using the *Spodoptera* caterpillars feeding on Jam fruits internally. The *Spodoptera* caterpillars feeding on indigenous or traditional Jam varieties are preferred by the healers. They have no specific criteria for selecting the caterpillars. Agile and sluggish, both caterpillars are collected. The healers informed that they have acquired this knowledge as traditional knowledge from their ancestors and it is its efficacy that they are still using it in their routine practice. The traditional medicinal uses of *Spodoptera* caterpillars feeding on Jam fruits have not been reported in reference literatures. I am thankful to the mother Nature for providing me opportunity to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 250. Jhinghan Ke Sag.

Jhinghan is a local name of *Lannea coromandelica* (Syn. *Odina wodier*). According to the reference literatures, it is a tree distributed throughout India. Its wood pulp is used for preparing paper and board. The Gum obtained by tapering stem bark, is used in confectionary, calico-printing, paper and cloth sizing and as mucilage for making ink. The wood is used for furniture, agricultural implements, hair-brushes, packing-cases, slate frames, carving etc. Jhinghan is well known herb of medicinal and industrial importance in Chhattisgarh. The natives and traditional healers are well aware of its natural occurrence. Jhingha Ke Sag is prepared by using its leaves. The natives consume it for its specific taste. They are also aware of its health benefits. According to them, the regular use of this Sag (Curry) helps in regularizing the digestive system. It cures the problem of constipation. The natives prepare it by adopting different methods.

Material Required: Jhinghan leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), Hardi (Turmeric) etc.

Method of Preparation: The oil is taken in pan and pan is kept on fire. The Jhinghan leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Jhinghan, please read my previous articles.

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Traditional medicinal knowledge about *Euproctis lunata* Walk. feeding on Bambri (*Acacia nilotica*) trees, in Chhattisgarh, India.

Bambri (*Acacia nilotica*) is a medium sized tree distributed in drier regions of India. It is useful plant for afforesting dry and arid regions. Its pods, tender shoots and leaves are used as fodder. Gum obtained from the bark is having industrial and medicinal uses. Bambri is a common tree in Chhattisgarh. It is an integral part of Rice fields, particularly in Chhattisgarh Plains. The natives use all parts of Bambri tree for various purposes. The natives and traditional healers have in depth traditional medicinal knowledge about Bambri plant parts. Many insects attack on Bambri trees in Chhattisgarh. The skin irritation causing Hairy caterpillar *Euproctis lunata* is among these insects. During the entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Durg region specialised in use of insects as medicine use the Hairy caterpillars both internally as well as externally in treatment of common diseases. Before use, they give special treatment to the collected caterpillars in order to eliminate its toxic contents. They boil the caterpillars in rose water and after one boil, the caterpillars are collected and dried in shade. After drying, the caterpillars are dipped in Neem leaf decoction, prepared by boiling the Neem leaves in water, overnight and next morning, again dried in sunlight. After complete drying the caterpillars are converted into powder and stored for future use. The full fed caterpillars are collected. The caterpillars feeding on newly emerged leaves of Bambri are preferred. Very active caterpillars are not preferred. The caterpillars are collected individually, not the swarms. The traditional healers add the caterpillar powder in popular herbal combinations used as liver and brain tonic. They informed that the addition of caterpillar powder makes the combination very promising, but with the powder, they add more herbs, in order to nullify the harmful effects of caterpillars. As the benefits are higher as compared to the harms and harmful effects can easily be managed, the traditional healers are adding the powder in popular herbal combinations. They further informed that externally the caterpillar powder is used in treatment of Leucoderma (Safed Dag) in combination with medicinal herbs and cow urine. According to the traditional healers, they are using this caterpillar powder as traditional knowledge. The popularity of caterpillar powder among them clearly indicates its efficacy.

These traditional medicinal uses of *Euproctis lunata* feeding on Bambri leaves have yet not been reported in reference literatures. As this Hairy caterpillar is a problematic pest in many parts of the world, I am confident that the information on its potential uses, present in form of traditional knowledge in Chhattisgarh, will be of great utility for the researchers around the world.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 141.
Tumri ke Shurbut.**

Tumri is a local name of *Trewia nudiflora*. According to the reference literatures, it is a large tree occurring throughout moist and hot parts of India. Its wood is used for agricultural implements, toys, slate and picture frames, pencils etc. Its wood pulp is suitable for writing and printing papers. It is well known herb in Chhattisgarh. The traditional healers use all parts of Tumri as medicine. Tumri Ke Shurbut is prepared by using its Fruits. This Shurbut is recommended as medicine, to the patients having digestive system related troubles. It is considered as a boon for the patients having piles. Its use stops the bleeding effectively in very less time. The natives are not aware of this preparation. They consume the raw fruits for its specific taste. To prepare the Shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed to prepare the Shurbut. In general, the traditional healers prepare this shurbut at their homes and give it to the patients in small amount.

For botany, traditional and reported medicinal uses of Tumri, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India: 140. Kharkhas Ke Shurbut.

Kharkhas is a local name of *Trema orientalis*. It is a shrub or small tree distributed throughout the India. According to the reference literatures, its bark fibre is used for ropes, cordage and rough cloth. The bark yields tannin and rough leaves are used as sandpaper. The wood is used for tea-chests, match boxes and splints. Kharkhas well known herb in Chhattisgarh. The natives and traditional healers are aware of its natural occurrence. They are also aware of its few but promising medicinal uses and properties. Kharkhas Ke Shurbut is prepared by using its fruits. This Shurbut is popular among the common natives. The traditional healers consider it promising in treatment of urinary system related troubles and suggest the patients to consume it internally as supplement during main treatment. To prepare the Shurbut, the juice is extracted by crushing the fruits. Many times the fruits are boiled in water and decoction is used. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice or decoction and Chashni are mixed to prepare the Shurbut.

For the botany, traditional and reported medicinal uses of Kharkhas, please read my previous articles.

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Modern trend of making Traditional knowledge databases: Are we in right direction?

As herb expert, presently I am associated with sixteen Traditional knowledge databases of India and other countries, directly or indirectly. The trend of making Traditional knowledge database is becoming very popular among the non-governmental as well as governmental organizations. One of the main objectives of these databases are to protect the rights of indigenous people and their knowledge. They are collecting the information through the published literatures and also conducting ethnobotanical surveys to gather the information. They claim that through these databases, they will fight against the multinational companies applying for international patents. From objectives, the establishment of database seems very nice work but from ground realities, most of the efforts seems waste. Many International agencies are funding these databases.

These fundings programmes are becoming the main target for most of the organizations. In present article, I am trying my best to point out some loopholes of these databases and to suggest some measures to improve its quality.

I have requested many times to the organizations engaged in preparation of different databases to work together as all of these organizations are collecting the same information by adopting the similar methodology, but possibly it is a personal ego, that their database has more genuine information that is coming as constraint but as expert I have seen all the databases with almost same contents and most of the information is very common, even many databases are having less information then the information available at internet. I am not only worried of wastage of fund but also for the wastage of efforts and time. For preparation of database average fifty five workers from scientist to computer operators are involved. The head of the organizations are well aware of major objective of database preparation but unfortunately all workers are not considering it at very important task. In one database, I found that there are many big mistakes, possibly because of faulty data entry but the matter of surprise was that no one has checked the error or wrong information given in database. For the database of Traditional knowledge, the data must be added in original form. Most of the database owners are preparing the databases on the basis of three to five years project funded by International organizations. For making the database for the traditional knowledge of any country like India, even fifty years are not enough to complete the database. You can understand it by my articles at Botanical.com. Till today I have written over 1300 articles based on Traditional knowledge about herbs and insects present in a state of India i.e. Chhattisgarh. India is having over twenty such states. I am planning for ten thousand articles. Even ten thousand articles can not document the traditional knowledge about all herbs and insects. The database owners claim that they will add the information regarding Traditional knowledge of India in mere three to five years and most of cases they complete it and get fund form the agencies. You can imagine about the contents and standard of these databases. A key factor of any database is the surveyors at field levels who collect the information from the traditional healers, herb collectors, vendors etc. In most of the cases, I have observed that due to poor training, they are unaware of methodology to collect the information. For the work of one such database, I got opportunity to interact with the field surveyors. The surveyors informed that they simple go to the respondents and note down the information and forget them. This is not a way to collect the information. In my articles I have mentioned about the importance of frequent visits and establishment of relations with the respondents. The surveyors go to the villages with notebook, pen and other kits. The respondents feel uneasy to give answers point by point mentioned in questionnaire. Most of the surveys believe in sample surveys. These sample surveys are good for the academicians to publish the research papers in little effort but for true workers, it is very essential to contact each and every person. The surveyors complained that their officers keep pressure on them to cover maximum respondents. The officers have their own limitations as they have to complete the database at limited period. As a result, they get data in good quantity but of very low quality. I have observed one more problem. All of these databases are focused in traditional knowledge

about herbs particularly the well known herbs. When the surveyors get information about medicinal insect or soil, they are forced to ignore these information. I do not consider it as good practice. When a surveyor starts his visit to the natives, he must be ready to note down all the information without sorting or modifying it. But none of the databases owners instruct the surveyors to follow these guidelines. The problems also exist at technical level. While reading one database, the technical staff informed that they have added only important knowledge in the database. And what about the other knowledge, I asked. He showed me a heap of questionnaire ready for disposal. I further asked, what are the criteria to select the important knowledge ? He replied that the team of five scientists and experts decide it. The decision regarding the traditional knowledge of common people is taken by only five experts. And most of the experts are from botany background. The experts from pharmacology and medicinal sciences can take such decisions more promisingly. I requested him that I am ready to take the heap of questionnaire with me as I am aware of its importance. The collection of waste things is my hobby as you now, the herbs present in fields, considered as waste plants by the researchers (i.e. weeds), are valuable herbs for me that can save thousands of lives. In another database, I got information regarding specific diseases not all the diseases. When I asked the experts, why it is so? They replied that as dry cough is a common trouble and already many combinations are available, we have rejected the new entries; I do not see any logic in this explanation. Every information is important and any data base must contain the complete information. If you are choosy, then name the database as database on Traditional knowledge about cancer, AIDS etc. I am also worried about the secrecy of the information. I have observed commonly that the experts sort out the information of utmost importance and keep it with them for their potential buyers and add the common information at databases. Unfortunately, there is no provision for monitoring the activities of these experts. As a columnist at Botanical.com, and engaged in documentation of traditional knowledge, I am aware that how the potential buyers approach to experts with good proposals and returns. While dealing with the Traditional knowledge of any community or communities, one should be very sincere and honest. One of the databases is doing really odd work. Unfortunately it is from my country. The owners have collected the information regarding home remedies in different regions and now they are selling it through their website at fairly high price. I am not aware that how the owners are protecting the rights of indigenous people.

Like the open university on herbal education, one of my dreams is to prepare a real database with complete information. My articles at Botanical.com are serving as database but this database gives the information regarding Chhattisgarh state only. In our cricket team, we are selecting the players having the capacity of all rounder i.e. the players must perform good bowling, batting and fielding. For the ideal Traditional knowledge database, a team of dedicated all rounders is necessary that can perform the duty of collection of information to addition in database. To join this dream team, I am engaged in net practice.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 248. Sarphonk Beeja Ke Burfi.

Sarphonk is a local name of *Tephrosia purpurea*. This perennial herb grows as wasteland weed in almost all parts of Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. They use all parts of Sarphonk as medicine. Sarphonk Beeja Ke Burfi is prepared by using its seeds. This sweet preparation is not much popular among the common natives. The traditional healers of Chhattisgarh recommend the use of this preparation to nullify the harmful effects of all types of toxins inside the body. After complete treatment of snake and rat bite, the patients are advised to take this preparation internally upto long time. As its taste is agreeable, the patients get ready to consume this preparation.

Material Required: Sarphonk seeds, Besan (Gram flour), Cow ghee and Sugar.

Method of Preparation: The Sarphonk seeds are roasted well and crushed in to powder. Separately, Besan is roasted in pan with the help of cow ghee. The seed powder and roasted Besan are mixed and after more roasting, sugar is added in form of Chashni (Syrup). The thick solution is spread in plates and after drying cut into square pieces. Once prepared in bulk, it is used upto long time.

For the botany, traditional and reported medicinal uses of Sarphonk, please read my previous articles.

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Traditional medicinal knowledge about *Helicoverpa armigera* Hubner, feeding on medicinal weed *Sonchus asper* in Chhattisgarh, India.

In Northern parts of Chhattisgarh, Dodak (*Sonchus asper*) grows as winter season weed in crop fields and wastelands. In winter, the farmers grow Gram (Chickpea) crop. Every year *Helicoverpa armigera* attacks on Gram crop and reduces the yield. Besides attacking Gram crop, it also attacks on common weeds. I have mentioned in previous articles that the natives and traditional healers of Chhattisgarh are aware of medicinal uses and properties of all components of Gram ecosystem. They use all parts of Gram, the medicinal soils on which Gram grows, and the insects attacking on this crop as medicine. According to them, the *Helicoverpa* caterpillars feeding on Gram possess special medicinal properties. In Chhattisgarh, the caterpillars attacking and feeding on weeds are also used as medicinal insects. During the ethnoentomological surveys conducted in different parts of Chhattisgarh, I have noted that many traditional healers of Northern Chhattisgarh use *Helicoverpa armigera* feeding on *Sonchus asper* per both internally as well as externally in treatment of many common diseases. The caterpillars collected from crop fields, although feeding exclusively on *Sonchus asper* are not considered good as medicine. The healers collect the caterpillars from *Sonchus* plants growing in wastelands. After collection, they kill and dry it in shade. The dried caterpillars are dipped in decoction of Tulsi (*Ocimum sanctum*) leaves overnight and next morning dried it in open sunlight. The dried caterpillars in form of powder are kept for future use. The traditional healers give this powder internally to the patients having Malarial fever as supplement treatment. The powder is given with Shahad (Honey). The healers use Kalmegh (*Andrographis paniculata*) based herbal combinations for main treatment. They claim that the use of caterpillars, enhances the effect of Kalmegh. In treatment of skin related troubles, the healers add the caterpillar powder in popular herbal combinations. According to them, this powder plays an important role in these herbal combinations. You will be surprised to know that they do not use *Sonchus* herb alone or in combination with other herbs in treatment of any of these troubles. The traditional healers are not in favour of its off-season use. They informed that for the troubles of different seasons, the mother Nature has given us different alternatives in form of new herbs and insects.

These uses of *Helicoverpa armigera* feeding on *Sonchus asper* have yet not been reported in reference literatures. This information is coming for the first time among the world community in form of my articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 248. Somi Van Ke Roti.

Somi Van is a local name of *Sacciolepis interrupta*. It grows as common grassy weed in almost all parts of Chhattisgarh. The natives and traditional healers of Chhattisgarh are aware of its natural presence but not much aware of its medicinal properties and uses. They use it as fodder to feed their cattle. Somi Van Ke Roti (Chapati) is prepared by using the roasted grains. Although the natives consider it as female food but the traditional healers are aware of its health benefits. They suggest the patients having poor vitality or recovering from the exhaustive disease to mix the roasted grains of Somi Van in powder form, with the traditional Roti prepared by using Gahun Ata (Wheat flour). According to them, the Roti can also be prepared by using Somi Van grain alone but as it causes flatulence and constipation, the healers avoid its use alone. The information regarding this preparation is limited to very few healers. As a result, this preparation is becoming a thing of the past. I personally feel that there is a strong need to popularize this preparation among the natives of the young generation with its health benefits. As Roti is prepared by adopting a standardized method, I am not giving the details. The Roti can be consumed with any Sag (Curry).

For the botany, traditional and reported medicinal uses of Somi Van, please read my previous articles.

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Traditional medicinal knowledge about medicinal insect *Spodoptera litura* (Noctuidae : Lepidoptera) Feeding on Bramhi (*Bacopa monnieri*), in Chhattisgarh, India.

Bramhi is a prostrate herb distributed in damp, marshy areas throughout India. Bramhi holds a reputed position as medicinal herb in different systems of medicine in India. According to the reference literatures, the active principle Hersaponin, resembles reserpine and Chloromazine in its central action and is reputed to be promising new tranquilizer. The dense forests of Chhattisgarh are rich in natural population of Bramhi herb. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Bramhi is under cultivation also in fairly large areas. The infestation of *Spodoptera litura* was first observed by the herb growers of Chhattisgarh Plains in the year 1999. Every year the area under its infestation is increasing. When the traditional healers of Chhattisgarh specialized in use of medicinal insects were contacted, they replied that in wild population the attack of *Spodoptera* caterpillars is very common and many healers are utilizing the full fed caterpillar as medicinal insect. During the ethnoentomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Chhattisgarh Plains and Southern parts are more aware of different medicinal uses of *Spodoptera*. They use it externally in most of the cases. Its uses in treatment of Adhasisi (Migraine) and Mirgi (Epilepsy) are most common. The healers collect the full fed caterpillars and after killing, dry it in shade. After drying, the caterpillars are converted into powder and stored for future use. In treatment of Adhasisi, they mix the powder and Sonth (Dried Ginger) in equal proportion and with the help of water, prepare an aqueous paste. This paste is applied externally on painful parts. According to the traditional healers, this combination can be used in normal times also in order to prevent the attack. They further informed that Sonth alone can serve the problem but the addition of caterpillar powder result in synergistic effects. I have tried this combination many times successfully. In treatment of Mirgi (Epilepsy), the healers use the caterpillar powder in combination with dry leaf powder of Kukronda (*Blumea lacera*). During the attack, the combination is burnt and smoke is directed towards the patients nose. This smoke provides great relief to the patient. The traditional healers are not aware of its other medicinal uses. As the infestation of this insect is not very common in Bramhi herbs, many herb vendors collect and sell the full fed caterpillars in form of dry powder to the traditional healers. For the healers, there is no testing method to confirm that the powder is of the caterpillars fed on Bramhi leaves but it is a faith, they are believing on the herb vendors.

These traditional medicinal uses of *Spodoptera litura* feeding on Bramhi have yet not been reported in reference literatures. This research article is the first written document on his aspect. Through the on-going ethnoentomological surveys I am trying my best to gather more information on this important aspect. You will find the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 247. Sarai Beeja Ke Burfi.

Sarai or Sal is a local name of *Shorea robusta*. It is a tree distributed largely in parts of north, east and central India. The Sal forests of Chhattisgarh are well known for its unique biodiversity around the world. For the natives and traditional healers of Chhattisgarh, Sal is the tree of medicinal and religious importance. Sal or Sarai Beeja Ke Burfi, is a sweet preparation popular among the traditional healers. It is prepared by using the roasted seeds of Sarai. According to the healers, it is a promising body tonic. It is recommended to the patients recovering from exhaustive diseases in order to gain the vitality again. This preparation is also considered suitable for the patients having digestive system related troubles. As the information regarding this preparation is limited to senior healers and this preparation is not popular among the common natives, this sweet dish is becoming a thing of past.

Material Required: Roasted seeds, Besan (Gram flour), Cow ghee and sugar

Method of Preparation: The Besan is roasted in pan with the help of Cow ghee. The roasted seeds are added in powder form and the mixture is roasted further. Sugar is added in form of Chashni (Syrup). The mixture is spread in iron plates and after drying cut into square pieces. Once prepared in bulk, it can be used upto long time.

For the botany, traditional and reported medicinal uses of Sarai, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 246. Bhiunli Ke Sag.

Bhiunli is a local name of *Sida veronicaefolia*. It is more or less hairy herb that occurs in almost all parts of Chhattisgarh. Its stem fibre is used for ropes and cordage. The natives and traditional healers are aware of its presence in wastelands. They use it externally as well as internally in treatment of many common diseases. Bhiunli Ke Sag is prepared by using its leaves. It is a popular Sag (Curry) among the poor natives. The newly emerged leaves are used for preparation of Sag. They are not aware of its health benefits. The traditional healers of Chhattisgarh Plains recommend this preparation to the patients having joint pains. Its use during the attack cures the intense pain whereas its regular use prevent the attack. As these days, the problem of joint pains is becoming common, the traditional healers give emphasis to popularize its use among the natives of young generation.

Material Required: Bhiunli leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: Oil is taken in pan and it is kept on fire. Bhiunli leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Bhiunli, please read my previous articles.

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Another meeting with Shri Dhanuhar, a traditional healer of Gariaband region, Chhattisgarh, India.

Today (i.e. 21st Feb. 2004) morning Shri Dhanuhar, the traditional healer cum herb collector visited my home with ten litres of pure Madhras (Honey), many rare herbs and unique information. I have mentioned the previous meetings and interactions with Shri Dhanuhar in my articles earlier. Every meeting results in new information. In present article, I am giving the details of today's interaction.

Shri Dhanuhar informed that the Madhras he has collected very recently is of small bees (Makkhi) that are visiting to the Sarson (Mustard) fields of Chhattisgarh. According to him, as the flowering in Ama (*Mangifera indica*) has started, the bees are also visiting to these trees. According to him, from simple test he can identify the major source of Madhras. He further informed that the Honey (Madhras) having the essence of Mustard and Ama flowers is very promising in treatment of diabetes. Its regular use decreases the fat in human body. Aware of my interest in unique produces, he gifted me ten litres of this special Honey. During interaction, he informed about seven types of Madhras (Honey), he collects from forests. These are Lamai, Katarri, Satdhara, Bhanwar, Bhanwar Katarri, Mohini, and Satmoda. All these Madhras are used in treatment of different diseases by the traditional healers of Chhattisgarh. The colour of most of these Madhras is yellowish but Bhanwar Katarri can be identified easily with the help of its reddish colour. The nature of reddish colour Madhras is hot and this is the reason that it is given

to the patients having poor vitality. Mohini Madhras is collected from Ghunghutti flies common in forest areas whereas Satdhara Madhras is collected from bee hives present inside the ground or at cracks of big trees. I requested him to give me one litre of each Madhras in next meeting. My mother showed him Madhras purchased from the healer of Bhopalpatnam region with complaint that it is very watery. She made request to confirm its purity. By seeing the Madhras, Shri Dhanuhar said that it is a pure Madhras but as it is collected during or at the end of rainy season, it is watery. He asked for a piece of white paper and smeared the Madhras on it, then showed the back side of paper that was with no impression of Madhras. He explained that the sugar syrup or any produce having sugar syrup as adulterant can give clear impression in back side of the paper. In scientific forums, our researchers give emphasis on sustainable and non-destructive harvesting of the forest produces but in most of the cases, they fail to give the examples and methods of non-destructive harvesting. Shri Dhanuhar adopt one such method during the collection of Madhras. According to him, the presence of wax (mom) in Madhras is a proof of destructive collection of Madhras. In most of the cases the collectors use the smoke to repel away the bees at first and by squeezing the beehives collect the Madhras (Honey). Shri Dhanuhar are not in favour of damaging the beehives. He simply makes a hole in small parts and through this hole collects the Madhras. By this method, the beehives remain safe and yield Madhras many times. It is also an eco-friendly way. The squeezing of Beehives has many other disadvantages. By squeezing the wax comes with Madhras. The presence of wax is a common problem in Madhras available in local markets. This wax accumulates in the bottom of bottles after sometimes. Many natives keep the bottles on lukewarm water to liquidity the wax but the traditional healers do not consider it as a good method. According to them, this process reduces the medicinal properties of Madhras. They suggest the natives to keep the bottles in sunlight. By adopting the method of Shri Dhanuhar one can avoid this problem. He further informed that in dark nights the bees collect the Madhras and at bright nights consume it. The best time of Madhras collection, according to Shri Dhanuhar, is at the end of dark nights. For the collection of Madhras, all times are not suitable, that is what we, the common natives, believe. Shri Dhanuhar informed me that he collects the Madhras in bulk. Many of his friends are also in this collection business but they are not adopting the non-destructive collection method. According to him, the Madhras buyers are not aware of seven types of Madras and they are mixing the valuable collections into one.

Shri Dhanuhar showed me the Hattha jodi, a typical structure of Bamboo plant, that occurs rarely in nature. I have mentioned in previous articles, that Hattha jodi is considered as a symbol of good luck and prosperity and the natives keep it in their cash lockers. The rich natives purchase it from the herb collectors without any bargain. Shri Dhanuhar told me about some tips from which the true Hattha jodi can be identified. According to him, the Hattha jodi having the signs of male and female King Cobra and fruit cover of Rudraksha (*Elaeocarpus sphaericus*), is considered best. From very long time my elder brother was in search of Hattha jodi, I purchased it from Shri Dhanuhar. He promised me to bring more Hattha jodi in his next visit. He showed me that samples of some rare herbs like true Telia Kand, Bhoolan jadi etc. I requested him to

bring the sample plants for the correct identification and test. During interaction, he informed that the hunting of small wild animals is one of his hobby. He used bows and arrows for hunting. For arrow head he uses, iron plates. According to him, many trees causes disturbances while hunting with bows. These trees are having specific magnetic fields (?) that change the direction of iron plate bearing arrows. This is the reason, during visit to the forests, the natives of his community destroy such trees. This was new information for me. He further informed that Dahiman is among these problematic trees and this is the reason you will not find the full sized trees in the region where they practice the hunting. Shri Dhanuhar is aware of many medicinal properties of Dahiman. When any native takes alcoholic drinks in excess that causes giddiness, by keeping the stick prepared by using Dahiman pith one can get immense relief .

Shri Dhanuhar is not happy with the increasing number of visitors in natural forests and illegal trading of medicinal herbs. He informed that the forest cover is decreasing very rapidly and rare herbs are in collection in bulk. He requested me to do something to stop this over exploitation. I am writing his problem in my article with the hope that the concerned authorities will take some steps to stop the destructive collection of herbs from wild.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 245. Chhote Keu Ke Sag.

Chhote Keu is a local name of *Sagittaria sagittifolia* (Family Alismataceae). It is a common herb present in many parts of Chhattisgarh. The natives and traditional healers are not much aware

of the medicinal properties of this herb. Chhote Keu Ke Sag is prepared by using its tubers. This Sag (Curry) is popular in many parts of Chhattisgarh particularly among the poor natives. They consume it for its specific taste. They prepare it by adding Dahi (Curd) in order to give it sour taste. Before use, the tubers are soaked in water and leachate is drained out. The traditional healers are aware of its health benefits. They recommend this preparation during the treatment of gynaecological troubles, as supplement treatment. The normal female natives are also advised by them to consume this Sag during the availability season to get protection from such troubles.

Material Required: Chhote Keu tubers, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Masale (Spices), Tel (Oil) etc.

Method of Preparation: The tubers are cut into small pieces. Oil is taken in pan and pan is kept on fire. The tuber pieces and all other ingredients are added in pan and roasted well. Many times Curd is also added in the mixture. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Chhote Keu, please read my previous articles.

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New information on traditional medicinal knowledge about Kambal Keeda (*Diacrisia oblique*) in Chhattisgarh, India.

Kambal Keeda *Diacrisia obliqua* (Arctiidae: Lepidoptera) is a polyphagous caterpillar which attacks many common weeds also. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh consider it as medicinal insect and use in

treatment of many common diseases. During the recently conducted Ethnoentomological surveys, I got a new information regarding special combination prepared by mixing the *Diacrisia obliqua* caterpillars feeding on different weed species. The traditional healers of Chhattisgarh Plains prepare and use this special combination. They collected the full fed caterpillars from KauKaini (*Commelina benghalensis*), Chirchita (*Achyranthes aspera*), Hurhur (*Cleome viscosa*) and Charota (*Cassia tora*) herbs. All these herbs grow as wasteland and crop weeds in Chhattisgarh. The caterpillars collected from these herbs are killed and dried in sunlight separately. After drying the hairs are removed and caterpillars are converted into powder. The powder of different caterpillars are mixed in equal proportion and kept for future use. This combination is considered as a boon for the patients having skin related troubles. In combination with Limau Rasa (Lemon fruit juice) the combination is applied externally on affected parts as treatment. The traditional healers informed that the herbs on which the caterpillars feed, possess medicinal properties with some harmful elements. These harmful elements are removed when the plant material reaches to the digestive system of caterpillars. The healers are aware that these caterpillars are having allergic substances. This is the reason they dry it in sunlight. The traditional healers are using this combination since time immemorial. Its popularity among them clearly indicates its efficacy. I have mentioned in previous articles that many other *Diacrisia* based combinations are in existence in Chhattisgarh. Unfortunately, the traditional healers of this region are not much aware of other uses of *Diacrisia*. The senior healers informed that the caterpillars collected from weeds growing in wastelands possess more medicinal properties, then the weeds collected from crop fields. The midnight is considered as best time for the collected of caterpillars. The healers of present generation are not following these measures sincerely.

This information is restricted to few traditional healers in Chhattisgarh. This combination is coming for the first time among the world community through my article. I am feeling proud to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India, 139.
Padmak Ke Shurbut.**

Padmak is a local name of *Prunus cerasoides* (Syn. *P. puddum*). According to the reference literatures, Padmak grows commonly in temperate Himalayas. Its stones (endocarp) are made into rosaries and necklaces and wood is used for walking sticks. The natural forests of Chhattisgarh are not rich in this herb. Its distribution is limited in isolated patches in hilly regions of Chhattisgarh. The natives and traditional healers are not much aware of its medicinal properties and uses. Padmak Ke Shurbut is prepared by using its fruits. According to the traditional healers this Shurbut is having very specific use. The patients having the problem of habitual abortion are advised by the healers to take this Shurbut upto long time. It is considered as one of the promising remedies. The healers are not aware of its other uses. Due to its specific use its popularity is decreasing very rapidly in Chhattisgarh. To prepare the Shurbut, Padmak fruits are boiled in water and decoction is prepared. Separately, sugar is boiled in water to prepare the Chashni (Syrup.) The decoction and Chashni are added and Shrubut is prepared. Diluted with water it is used round the year.

For the botany, traditional and reported medicinal uses of Padmak, please read my previous articles.

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Lantana bug *Teleonemia scrupulosa* Stal. (Tingidae: Heteroptera) as medicinal insect in Chhattisgarh, India.

Gotiphoool (*Lantana camara*) is a straggling aromatic shrub, native to tropical America and occurs throughout India. It is also grown as hedge plant. Due to its prolific growth and wide adaptability, Lantana has developed into a serious pest. Lantana is present in almost all parts of Chhattisgarh. Living with this exotic herb since decades the natives and traditional healers have discovered and developed its many uses. They use its young twigs as Dataun (Herbal Tooth Brush). They are using all parts of Lantana both internally as well as externally in treatment of many diseases. Lantana bug *Teleonemia scirpulosus* is released in Chhattisgarh few decades back as potential bio-control agent of Lantana. During the ethno-entomological surveys conducted in different parts of Chhattisgarh, I have noted that many traditional healers are utilizing *Teleonemia* as medicinal insect in their routine practice. The healers use full fed bug in powder form both alone and in combination with medicinal herbs. The patients having the problem of stomatitis are advised by the healers to boil the *Teleonemia* bug in water and gargle with this decoction. It is considered as one of the simple but promising treatments. The swallowing of this decoction is avoided. Many healers prepare a special herbal oil by boiling the bug in Til (Sesame seed) Oil. When all watery contents evaporate, boiling is stopped and filtered oil is used for future use. In case of bee stings, this oil is applied externally on affected part. Few healers use this oil as first aid measure in treatment of scorpion sting. Once prepared in bulk, according to the traditional healers, this special oil can be kept upto long time (even upto 5 years). I have observed during the surveys that many herb vendors collect this special oil from the healers and sell it to the natives and healers of neighbouring states.

In reference literatures, the use of Lantana bug as medicinal insect has not been mentioned. This research article is the first written document on this important aspect. Through the ongoing ethnoentomological surveys, I am trying my best to gather more information on other medicinal uses of Lantana bug. You will find the details in coming articles.

Thank you very much for reading the article

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Herbal dishes of Chhattisgarh, India. 244. Piri-Pirika Ke Sag.

Piri-Pirika is Oriya name of *Hibiscus furcatus*. It is a prickly herb found as undergrowth in many parts of Chhattisgarh particularly in the regions nearer to Orissa state. It is relatively less known medicinal herb in Chhattisgarh. Piri-Pirika ke Sag (Curry) is prepared by using its leaves, sour in taste. This curry is very popular among the common natives. Many times they add the leaves of this herb with other curries, in order to give it specific taste. They are not much aware of its medicinal properties. The traditional healers of Chhattisgarh recommend it to the patients having the digestive system related troubles. It is considered as promising appetizer. The patients having peptic ulcers or related troubles are not advised to take the Leaves in any form.

Material Required: Piri-Pirika leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices) etc.

Method of Preparation: Oil is taken in pan and it is kept on fire. The leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of *Hibiscus furcatus*, please read my previous articles.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 138.
Kudumi Ke Shurbut.**

Kudumi is a local name of *Polyalthia cerasoides*. It is well known tree of medicinal importance in Chhattisgarh. The senior natives and traditional healers of Chhattisgarh use all parts of Kudumi as medicine. Its bark is used most commonly. Kudumi Ke Shurbut is prepared by using its matured fruits. The preparation is not much popular these days. The traditional healers informed that this Shurbut is used for specific purpose. It is given to the patients during high fever in order to reduce the temperature without much exhaustion. The healers are not aware of its other uses. This is the reason this Shurbut is becoming a thing of past. This observation encouraged me to add this Shurbut in present series. To prepare the Shurbut, the matured fruits are boiled in water and decoction is prepared. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The decoction and Chasni are added to prepare the Shurbut. Once prepared in bulk it is used round the year in treatment of fever.

For the botany, traditional and reported medicinal uses of Kudumi, please read my previous articles.

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Gastropacha pardale (Lasiocampidae: Lepidoptera) as medicinal insect in Chhattisgarh, India.

Ama Patta Kidva (*Gastropacha pardale*) feeds naturally in Ama (*Mangifera indica*) leaves. Ama is well known tree of medicinal and religious importance in Chhattisgarh. Ama (Mango) orchards are characteristic feature of common village in Chhattisgarh. These orchards are having traditional varieties having big fruit stone and small mesocarp. The natives and traditional healers prefer the traditional varieties as medicine. They use all parts of Ama, both internally as well as externally in treatment of common diseases. During the ethnoentomological surveys conducted in different parts of Chhattisgarh I have noted that the traditional healers of Chhattisgarh Plains and Northern parts use the caterpillars of *Gastropacha pardale* feeding on Ama leaves for medicinal purposes. I have identified thirteen traditional healers specialized in use of this caterpillar. They use the full fed caterpillars in form of dry powder in treatment of

diabetes, locally known as Shakkar Ke bemari (Sugar trouble). They use the caterpillars alone at initial stages but in advanced case they give the caterpillars with medicinal herbs.

The healers informed that the addition of medicinal herbs not only increases the potential of combination but also helps in eliminating the harmful effects of larger doses of caterpillars. During the surveys, I got opportunities to meet and interact with the patients getting relief from this combination. Their encouraging responses motivated me to document the traditional medicinal knowledge about this caterpillar without any delay. The healers further informed me that the dry caterpillar can also be used in form of smoke in treatment of respiratory troubles. The patients having Asthma can use the smoke of burning caterpillars during attack as treatment. Every time the caterpillars collected after feeding the Ama leaves are used. It shows that the combination of chemicals present in digestive system of caterpillars and chemicals of Ama leaves, results in promising effects. According to the healers, the use of either caterpillar (before feeding) and Ama leaves, alone, is unable to give desirable effects.

In reference literatures, the medicinal uses and properties of *Gastropacha pardale* have yet not been mentioned. It seems that this research article is a first record on this aspect. As diabetes is trouble common in almost all parts of the world, I am expecting that the traditional knowledge of our healers will be of great help for the researchers around the world.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 243. Van Dal Ke Burfi.

Van Dal is a local name of *Hygroryza aristata*. This herb forms floating masses in lakes and slow-moving streams. It is under cultivation in many parts of Chhattisgarh. The natives and traditional healers of Chhattisgarh are not much aware of its medicinal uses and properties. In reference literatures related to different systems of medicine in India, many medicinal properties and uses of Van Dal have been mentioned. According to Ayurveda, the seeds are sweet and acrid, oleaginous, digestible and cooling. Van Dal Ke Burfi is a sweet preparation prepared by using the roasted seeds. This preparation is not much popular among the common natives. The traditional healers of Chhattisgarh specialised in treatment of Jaundice recommend this preparation to their patients. They suggest the patients to continue its use even after the treatment. According to them, it acts as promising liver tonic. Its use in limited amount is prescribed.

Material Required: Roasted seeds, Sugar, Cow Ghee and Besan (Gram Flour).

Method of Preparation: Besan is roasted in pan with the help of Cow ghee. The roasted seeds are powdered and added in Besan. The mixture is roasted further. Sugar is added in form of Chashni (Syrup). The mixture is spread on Iron plate and after drying, cut into square pieces. Once prepared in bulk, it is used round the year as per the recommendations of the traditional healers.

For the botany, traditional and reported medicinal uses of Van Dal, please read my previous articles.

Traditional medicinal uses of *Helicoverpa armigera* Hubner feeding on wasteland herb Kuthua (*Xanthium strumarium*), in Chhattisgarh, India.

Besides attacking the major agricultural crops, *Helicoverpa armigera* also feeds on many common weeds. Kuthua (*Xanthium strumarium*) is among these weeds. According to the reference literatures, Kuthua is a herb distributed throughout India. It is used as organic manure. The whole herb of Kuthua is used against chronic malaria and urinary troubles. Its seed oil is edible and also have many industrial uses. The fruits are rich in vitamin C. The natives and traditional healers of Chhattisgarh are well aware of medicinal properties and uses of Kuthua. During the ethnoentomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Gandai-Salewara and Bhopalpatnam regions use the *Helicoverpa* caterpillars feeding on Kuthua leaves as medicine. The full fed caterpillars are used in many ways. Its use in form of special oil is very common among them. The caterpillars are boiled in Til (Sesame seed) oil, till the loss of watery contents. After boiling, the caterpillars are collected and dried in shade. After drying, it is dipped in Sarson (Mustard seed) oil and the mixture is kept under open sky in sunlight upto forty days. After this duration, the mixture is filtered and special oil is stored for future use. This oil is considered as a boon for the patients having the problem of Scrofula and Herpes. It is applied externally on affected parts. According to the traditional healers, the leaves of Kuthua can also be used for the same purpose but the leaves are less effective as compared to the oil. Many healers use the caterpillars in powder form, in combination with medicinal herbs, internally, in treatment of troubles related to respiratory system. The powder is not used alone as it can cause harmful effects. When it is used in combination, the presence of medicinal herbs nullifies its harmful effects. According to the traditional healers, they have gained the knowledge regarding medicinal uses of *Helicoverpa armigera* from their ancestors and practicing it since generations. Their deep faith in these uses clearly indicates its efficacy. In previous articles, I have written a lot on different aspects of traditional medicinal knowledge about *Helicoverpa* feeding on different herbs, but the above mentioned information is new. This information has yet not been reported in reference literatures.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 137. Kassi Ke Shurbut.

Kassi is a local name of *Bridelia retusa*. It is a moderate sized tree found in dry deciduous forests of Chhattisgarh. The natives and traditional healers are well aware of different medicinal properties and uses of this herb. Its bark is used for tanning whereas leaves are used as fodder. The wood is used locally for house-posts, rafters, floor boards, packing cases, country carts and agricultural implements. Kassi Ke Shurbut is prepared by its fruits. This preparation is not much popular among the common natives. The traditional healers of Chhattisgarh recommend this Shurbut as medicine to the patients having gynaecological troubles. According to them, the internal use of this Shurbut checks all types of bleeding both internal as well as external. They are not in favour of using this Shurbut upto long time. Due to the restricted use of this Shurbut, this preparation is becoming a thing of past day by day. To prepare the Shurbut, Kassi fruits are boiled in water the decoction is collected. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The decoction and Chashni are mixed to prepare the Shurbut. Diluted with water it is used round the year as per the recommendations of healers.

For the botany, traditional and reported medicinal uses of Kassi, please read my previous articles.

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Amaranthus Weevil *Hypolixus truncatulus* (F) as medicinal insect in Chhattisgarh, India.

According to the reference literatures, *Amaranthus* Weevil is a major pest of *Amaranthus*. The Weevil attacks and damages all varieties of the plant both wild and cultivated and has a countrywide distribution. The damage done by the borer grub is serious. A single plant may

contain 17-18 (or even more) grubs causing it to rupture and break off. The attack may also cause stunting of the plant, twisting and swelling of the branches and stems and suppression of shoot and leaf production. In Chhattisgarh, this Weevil attacks on Jangli Chaulai (*Amaranthus spinosus*) that grows as wasteland weed. Jangli Chaulai holds a reputed position as medicinal herb among the traditional healers of Chhattisgarh. They use whole plant of Jangli Chaulai both externally as well as internally in treatment of many common diseases. The reference literatures related to different systems of medicine in India are also full of information regarding medicinal uses and properties of Jangli Chaulai. According to Ayurveda, it is cooling, digestible, alexiteric, laxative, diuretic, stomachic, antipyretic, improves appetite and useful in treatment of biliousness, blood diseases, burning sensation, hallucination, leprosy, bronchitis, rat-bite, piles, leucorrhoea etc. I have mentioned in previous articles that the traditional healers of Chhattisgarh take special interest in the insects feeding on medicinal herbs. The traditional healers of Southern Chhattisgarh use the grub of *Amaranthus* weevil as medicine. According to them they are using this insect for medicinal purposes since time immemorial. Its popularity among them clearly indicates its efficacy. The healers prepare a special oil by using full fed grubs. For preparation of oil, the grubs are boiled in base oil and when all watery contents evaporate, the boiling is stopped and filtered oil is kept for future use. As base oil, Sarson (Mustard seed) oil is used. This specially prepared oil is used for many purposes. Its use in treatment of skin related troubles is very common. The oil is applied externally on affected parts. The use is continued till complete cure. As first aid measure, the healers suggest the natives to apply this oil on burns. In combination of medicinal herbs, the healers use this oil in treatment of Diabetic carbuncle externally. They informed that *Amaranthus* Weevil grub plays an important role in this oil. During the ethno entomological surveys conducted in different parts of Chhattisgarh, I have observed that many herb vendors collect this special oil from the traditional healers and sell it to the natives and the healers of other states without disclosing its secret formulation. The Weevil feeding on cultivated species of *Amaranthus* is not used as medicine. The Jangli Chaulai (*Amaranthus spinosus*) herb growing in Lateritic (Murrum) soil is not considered suitable for the collection of grubs. Jangli Chaulai growing with weed species *Tinpania* (*Oxalis corniculata*) is also not used as medicine. Although the traditional healers are unable to give the scientific explanations regarding these criteria for selection but their deep faith in the traditional practice is enough to indicate its importance. Many healers claimed that the grubs and adults can be used internally also but they are not interested in disclosing the traditional knowledge.

The above mentioned traditional medicinal uses of *Amaranthus* Weevil have yet not been reported. I am feeling proud to document this unique traditional knowledge. As *Amaranthus* Weevil is considered as a problem in many parts of the world, I am confident that the traditional medicinal uses of this insect will encourage the researchers to focus their studies on this important aspect also.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh. India. 136.
Gondaguria Ke Shurbut.**

Gondaguria is Oriya name of *Macaranga peltata*. The natives and traditional healers of Bagbahera region of Chhattisgarh are well aware of this herb. Although they use it very rarely but they are aware of its medicinal properties and uses. Its gum is used more commonly as medicine. Gondaguria Ke Shurbut is prepared by using its fruits. According to the traditional healers of Bagbahera region the regular consumption of this Shurbut helps in maintaining the heat balance. It removes extra heat from body and cures the troubles due to excessive body heat. The patients having poor vitality are not advised by the healers to take this Shurbut. This Shurbut is not much popular among the common natives. To prepare the Shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The Chashni and juice are mixed to prepare the Shurbut. Diluted with water, it is taken internally as per the recommendations of the traditional healers. The use of Gram (Chana) in any form is restricted during the use of this Shurbut. The healers of present generation are unable to give the reason.

For the botany, traditional and reported medicinal uses of Gondaguria, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 242. Kanta-Katchu Ke Sag.

Kanta-Katchu is a local name of *Lasia spinosa*. It is a prickly perennial herb found in many parts of Chhattisgarh. It is one of the less known herbs in Chhattisgarh. For the first time, I got information regarding Kanta-Katchu Ke Sag from the herb vendors coming from neighbouring states particularly from Orissa. Kanta-Katchu Ke Sag is prepared by using its newly emerged leaves. According to the herb vendors, this preparation is a boon for the natives having throat related troubles. The natives having the problem of Tonsillitis are suggested by the herb vendors to never miss the chance of its consumption during availability period of leaves. I have tried this Sag successfully many times. The traditional healers of Chhattisgarh were not aware of this Sag (Curry) earlier. When I informed them, they tried and found it very useful. I am trying my best to aware the natives of young generations about the health benefits of this Sag.

Material Required: Kanta-katchu leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil) and Masale (Spices).

Method of Preparation: Oil is taken in pan and it is kept on fire. Kanta-Katchu leaves and all other ingredients are added in pan and roasted well till the loss of water. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Kanta-Katchu, please read my previous articles.

Traditional medicinal knowledge about the excreta of *Sabaria rondelaria* Fab. feeding on *Ixora* sp. in Chhattisgarh, India.

Rangan (*Ixora coccinea*) is a well known herb in Chhattisgarh. It is grown as hedge plant for its deep-red, attractive flowers. Its root, leaves and flowers are used as medicine. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. A semilooper *Sabaria rondelaria* (Geometridae: Lepidoptera) feeds on the leaves of *Ixora coccinea*. Although for the gardeners it is a problematic pest but for the traditional healers of Chhattisgarh, its larva is a valuable source of medicine. The traditional healers of Chhattisgarh Plains specialised in use of medicinal insects, use very commonly the excreta of full fed larva as medicine, alone or in combination with potential herbs. They use it in treatment of gynaecological troubles, particularly in treatment of Dysmenorrhoea. The traditional healers informed that they are using the excreta of this insect since generations. According to them, both *Ixora* and insect are present in Chhattisgarh since long time. They do not use the larva as medicine. According to them, the larvae possess many toxic chemicals that can cause disturbances in stomach. The excreta is free from these toxic chemicals. As it is hard to collect the excreta in bulk, in nature, the traditional healers of young generation rear it in plastic jars but the senior traditional healers give emphasis on collection of excreta from nature. For long term use, the collected excreta is dried in moon light and in form of powder kept in blue coloured cloth safely. They are not aware about the relevance of blue coloured cloth as they are following the traditional practices. I personally feel that there is a strong need to search the science behind this use. The information on traditional medicinal uses of *Sabaria* excreta is limited to few traditional healers. In general, the healers do not disclose the addition or use of *Sabaria* excreta in treatment of gynaecological troubles to any one.

The name of *Sabaria rondelaria* is not present in the list of medicinal insects. It seems that the present article is a first written document on traditional medicinal uses of *Sabaria* excreta.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 135.
Kanukpa Ke Shurbut.**

Kanukpa is a local name of *Evodia fraxinifolia*. According to the reference literatures, it is a tree found in the sub-tropical Himalayas and the Khasia hills. It bears pinnate leaves, greenish white flowers and red capsular fruits. Kanukpa is less known herb in Chhattisgarh. The natives of Bengali community migrated from neighbouring states, prepare and use Kanukpa Ke Shurbut. In Northern Hilly regions of Chhattisgarh many natives have planted this tree. Kanukpa Ke Shurbut is prepared by using its fruits. The natives consume it for its delicious taste but the senior natives are aware of its health benefits. According to them, this Shurbut is very useful for the patients recovering from exhaustive diseases. It is a promising body tonic and helps in developing natural resistance inside the body. To prepare the Shurbut, the juice is extracted by crushing the fruits. Many natives boil the fruits in water and use the decoction in place of juice. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed to prepare the Shurbut. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Kanukpa, please read my previous articles.

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**Traditional medicinal knowledge about Sonpatha Ke Illi *Hyblaea purea* (Cramer)
[Hyblaeidae: Lepidoptera] in Chhattisgarh, India.**

Sonpatha (*Oroxylum indicum*, family Bignoniaceae) is well known medicinal herb in Chhattisgarh. Its root bark is well known and much esteemed being an ingredient of the Dashamula of Hondo medicine. According to Ayurveda, root bark is acrid, astringent to bowels, cooling, aphrodisiac, tonic, and appetizer and useful in biliousness, bronchitis, fevers, intestinal worms, vomiting, dysentery, leucoderma, asthma, inflammations and anal troubles. Its fruits are acrid, stomachic, anthelmintic and good in heart and throat disease, piles, bronchitis etc. Sonpatha Ke Illi *Hyblaea purea* is a common insect feeding on Sonpatha. The traditional healers and herb vendors of many parts of Chhattisgarh are aware of many traditional medicinal uses of full fed caterpillars. During the ethno entomological surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Gandai-Salewara and Narharpur region use frequently this insect as medicine. Most of these healers want to conserve this knowledge as secret knowledge. Many healers aware of my on-going documentation work disclosed many uses of this insect. The healers prepare a special oil from the caterpillars. To prepare the oil, full fed caterpillars are boiled in base oil and when all watery contents evaporate, boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) oil is used. Few healers add the herbs with the caterpillars but majority of the healers claimed that the full fed caterpillars are enough to give the desirable effects. The special oil is used externally in treatment of ear related troubles. In treatment of Otorrhoea, few drops of oil are applied into the ears. It is considered as one of the promising treatments. The healers also use the oil in form of massage externally in treatment of rheumatic pain. I have observed that many herb vendors sell this special oil to the traditional healers and natives of neighbouring states without disclosing its method of preparation. I have tried this oil successfully in treatment of rheumatic pain. The traditional healers have their own criteria to select the potential caterpillars feeding on Sonpatha. The dull caterpillars are considered more promising. According to them, the agile caterpillars lose the valuable medicinal contents. I personally feel that there is a need of systematic research on this aspect in order to find out the scientific explanations. In reference literatures, *Hyblaea* is not reported as medicinal insect. This research article is a first written document on this important aspect.

Through the on-going ethnoentomological surveys, I am expecting more information on traditional medicinal uses of *Hyblaea purea* feeding on Sonpatha. You will find the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 241. Beeja Phool Ke Sag.

Beeja is a local name of *Pterocarpus marsupium*. It is well known tree of medicinal and industrial importance. Its wood is used for furniture and cabinet work. The Gum obtained by trapping stem, is used in diarrhoea and for toothache. The bruised leaves are applied on sores and boils. The wood pulp is suitable for wrapping paper. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. Its wood is popularly used in treatment of Diabetes. I have mentioned in previous articles that the traditional healers of Chhattisgarh prepare special Herbal Glasses for the Diabetic patients using Beeja wood. Beeja Phool Ke Sag is prepared by using its flowers. This Sag (Curry) is popular among the poor natives of Beeja rich areas of Chhattisgarh. They are not much aware of its medicinal properties and uses. The traditional healers of Chhattisgarh recommend this preparation to the patients having digestive system related troubles. It is considered as a boon for the patients having the problem of Piles (Bavasir). The healers suggest the patients to use it judiciously, as overdose can cause upset in stomach.

Material Required: Beeja Phool, Lason (Garlic), Namak (Salt), Masale (Spices), Hardi (Turmeric) and Cow ghee.

Method of Preparation: The Beeja Phool (Flowers) are roasted in cow ghee and after adding all ingredients, the mixture is roasted further. The Sag (Curry) is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Beeja, please read my previous article.

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Traditional medicinal uses of *Helicoverpa armigera* Hubner feeding on medicinal weed *Tridax procumbens* in Chhattisgarh, India.

Helicoverpa armigera is the most important pest of Gram (*Cicer arietinum*). The other pulses attacked are lablab, red gram and cowpea. Besides, cultivated crops, this insect also attacks on common weeds present in crop fields and wasteland like Gorakhmundi (*Sphaeranthus indicus*), Ek dandi (*Tridax procumbens*), etc. I have mentioned in previous articles that although for the researchers and farmers *Helicoverpa armigera* is a problematic pest but for the traditional healers and senior natives of Chhattisgarh, it is a valuable medicinal insect. They use it both internally as well as externally in treatment of many common troubles. In most of the cases the traditional healers and senior natives use the full fed caterpillars collected from different hosts possess different medicinal properties and the growth status of hosts plays an important role in making the caterpillars medicinally rich. *Tridax* is well known medicinal weed in Chhattisgarh. During field work when the farmers get injuries, they simply apply the crushed leaves of *Tridax* in affected part to arrest the bleeding. I have mentioned in previous articles that the caterpillars feeding on Gram possess the same property. According to the traditional healers, the *Helicoverpa* caterpillars feeding on *Tridax* plant possess great styptic properties. The traditional healers of Chhattisgarh Plains are using *Helicoverpa* feeding on *Tridax* as medicine. The healers of other regions are not aware of this use. The healers use the caterpillars both in fresh and dry form in treatment. To stop the bleeding and to heal the wound, the crushed caterpillars are applied externally on affected parts. It acts in more promising way than the *Tridax* leaves - the healers informed. The healers collect the full fed caterpillars in bulk and crush it into powder. In combination with other herbs, they use it to check all types of internal bleedings. Many healers use the powder alone. Although the researchers have reported the feeding of *Helicoverpa* on *Tridax* very recently but the traditional healers of Chhattisgarh are not only aware of this feeding but they are utilizing it as medicine.

The use of *Helicoverpa* caterpillars feeding on *Tridax* has yet not been reported in reference literatures. I am feeling proud to document this knowledge. The healers are aware of many other uses of *Helicoverpa* feeding on *Tridax* but as their traditional secret they do not want to disclose it.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 240. Kulu Beeja ke Burfi.

Kulu is a local name of *Sterculia urens*. Kulu is a well known tree of economical importance in Chhattisgarh. According to the reference literatures, its stem is a source of gum, which is used as substitute for gum tragacanth and is used as thickening agent in preparation of Printing pastes for textile industry. The gum has many other industrial uses also. Kulu Beeja ke Burfi is prepared by using its seeds. This sweet preparation is very popular among the traditional healers of Southern Chhattisgarh. They recommend this preparation as tonic. Many healers suggest the patients having the problem of Gonorrhoea to consume this preparation as supplement treatment along with main treatment. The natives are not much aware of this preparation. In Kulu tree rich regions the natives consume its raw seeds commonly.

Material Required: Kulu seeds, Besan (Gram flour), Sugar and Cow ghee.

Method of Preparation: Kulu seeds are roasted well. Separately, Besan is roasted well in pan with the help of cow ghee. Roasted seeds are converted into powder and mixed with Besan. Sugar is added in this mixture in form of Chashni (Syrup). The thick solution is spread on iron plates and after drying cut into square pieces. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Kulu, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 239. Funci Ke Sag.

Funci is a local name of *Stellaria aquatica*. This herb is present in limited areas of Chhattisgarh particularly in Mainpat and Amarkantak regions. The natives of this region prepare and consume its Sag (Curry). Funci ke Sag is prepared by using its leaves and tender stalks. It is popular among the poor natives. Many senior natives informed that the regular use of this preparation removes extra heat from body and helps in maintaining the heat balance. The traditional healers of these regions are not much aware of this preparation. The decreasing popularity of this preparation among the natives encouraged me to include the name of this dish in present series.

Material Required: Funci leaves and tender stalks, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices) etc.

Method of Preparation: Oil is taken in pan and pan is kept on fire. Funci leaves and tender stalks are cut into small pieces. These pieces are added in pan with other ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Funci, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 134. Nagphani Ke Shurbut.

Nagphani is a local name of *Opuntia nigricans*. Nagphani is a thorny bush native to South America and introduced into India as a hedge plant. This herb is present in many parts of Chhattisgarh. The farmers of forest areas plant this herb around the crop fields in order to protect the crops from wild animals. The natives and traditional healers of Chhattisgarh are not much aware of medicinal properties and uses of this herb. The traditional healers of Chhattisgarh Plains prepare and recommend this Shurbut. Nagphani Ke Shurbut is prepared by using its matured fruits. The traditional healers consider this preparation as a boon for the patients having respiratory system related troubles. The patients having Asthma are advised by them to consume this Shurbut upto long time as it acts as preventive and curative to Asthma. To prepare the Shurbut, the juice is extracted by crushing the matured fruits. Many times the juice is extracted after roasting the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are added to prepare the Shurbut.

For the botany, traditional and reported medicinal uses of Nagphani, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 238. Van Kevatch Ke Sag.

Van Kevatch is a local name of *Mucuna* species. The dense forests of Chhattisgarh are rich in natural bio diversity of *Mucuna* species. The natives and traditional healers have in depth traditional medicinal knowledge about *Mucuna* species. Many species particularly *Mucuna pruriens* is under cultivation in fairly large areas in Chhattisgarh. Van Kevatch Ke sag is popular in Nagri-Sihawa region of Chhattisgarh. It is prepared by using the young pods. The natives consume it for its specific taste but the traditional healers are aware of its medicinal properties and uses. They recommend this preparation to the patients having the problem of constipation. They consider this preparation promising in treatment of blood related diseases. In general, they suggest the patients to never miss the chance of its consumption during growing period. They give emphasis on its judicious use.

Material Required: Van Kevatch young pods, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices) and Hardi (Turmeric).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Separately, the young pods are boiled in water. The softened pods are added in pan in combination with other ingredients and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Van Kevatch, please read my previous articles.

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Poplar defoliator *Clostera cupreata* Butter (Notodontidae : Lepidoptera) as medicinal insect in Chhattisgarh, India.

Poplar (*Populus deltoides*) is a newly introduced tree species in Chhattisgarh. According to the reference literatures, *Populus* sp. are deciduous, dioecious trees commonly known as Poplar, Aspen and Cotton wood, chiefly in North temperate zone with some species in sub tropical region. About 10 species of *Populus* grow naturally in Chhattisgarh. In Chhattisgarh it was introduced by the authorities in the year 1994. It was promoted as timber yielding tree. Its timber is used for Match-splints, artificial limbs, cricket-bats, packing cases, ply woods and pulp. The Poplar defoliator *Closteria cupreata* is well known pest of this species. When this insect infested on Poplar trees for the first time I collected the different stages of this insect and presented it to the traditional healers of Chhattisgarh specialized in use of insects as medicine. As Poplar was new plant for them, initially they hesitated to evaluate its medicinal potential but later when I planted some seedlings at the regions where they visit frequently in search of medicinal herbs they started taking interest in both the Poplar tree and Poplar defoliator. After continuous research, the traditional healers of Chhattisgarh found the male and female catkins of poplar useful in treatment of respiratory trouble. In reference literatures Poplar is not mentioned as medicinal tree. The traditional healers of present generation have discovered its new use. Many healers have found the dry leaf powder of Poplar very promising in treatment of Piles (Bavasar) but due to some toxic contents they use it in combination with other herbs. The Poplar defoliator has solved this problem. Now the traditional healers are using the full fed caterpillars of Poplar defoliator in form of dry powder in treatment of Bavasar. They are applying it externally in form of aqueous paste. Opposite to its leaves that are used in combination with other herbs, the healers are using the caterpillars alone. Many healers claimed that in combination with other medicinal herbs, the caterpillars can be used externally in treatment of skin related troubles. They are conducting trials for confirmation. These promising medicinal uses have added the name of Poplar defoliator in the list of medicinal insects. As poplar and poplar defoliator are common in many parts of the world, I am confident that the medicinal uses developed by the traditional healers of Chhattisgarh will be of great help for the researchers and farmers around the world.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 237. Pangra Ke Sag.

Pangra is a local name of *Erythrina variegata* var-*orientalis* (Family Papilionaceae). It is a small sized tree that grows naturally in many parts of Chhattisgarh. The natives and traditional healers are less aware of its medicinal properties and uses. Pangra Ke Sag is prepared by using its tender pods. The natives of Pangra rich region particularly the poor natives prepare and consume this preparation. They are not much aware of its medicinal properties and uses. The traditional healers of Chhattisgarh suggest the patients having the problem of chronic constipation to consume this preparation, in small doses. They also recommend it to the patients recovering from exhaustive diseases as tonic. They are not in favour of its off season use.

Material Required: Tender pods of Pangra, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt) and Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Tender pods and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal use of Pangra, please read my previous articles.

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Desmidophorus hebes Fabr. (Curculionidae: Coleoptera) as medicinal insect in Chhattisgarh, India.

Desmidophorus sp. is a common pest in many crops of economical importance. In Chhattisgarh it attacks on many plants but the traditional healers of Chhattisgarh Plains use the adults of this

Weevil feeding on Jason (*Hibiscus rosa-sinensis*) as medicine. Through the ethno entomological surveys conducted in different parts of Chhattisgarh, I have collected many unique information on this aspect. According to the reference literatures, Jason is a common, evergreen, ornamental shrub. It is a herb of religious and medicinal importance in Chhattisgarh. Its flowers are offered to the Goddess. This is the reason it is planted in every home garden. The natives and traditional healers of the state have in depth traditional medicinal knowledge about different parts of Jason. They use it both internally as well as externally in treatment of many common diseases. In many parts of Chhattisgarh particularly in Chhattisgarh Plains, the weevil *Desmidophorus hebes* attacks on Jason herb and feeds on its leaves and flowers. The traditional healers collect the adult weevils feeding on flowers for medicinal purposes. The weevils are dried in shade after killing and in form of powder kept for future use. This powder is used in combination with medicinal herbs to prepare a special herbal combination. The traditional healers of Raipur region mix the powder of adults and seed powder of Bemchi (*Psoralea corylifolia*) in equal proportion and with the help of cow urine prepare an aqueous paste. This paste is applied externally on white spots of Safed Dag (*Leucoderma*). This external treatment is considered as one of the promising treatments specially at initial stages. The healers also use the weevil powder in treatment of other skin related troubles but as other promising alternatives are available it is used less commonly for these troubles. The Jason flowers on which the adult weevil feed are not used in combination with Bemchi to treat the *Leucoderma*. The uses of Jason flowers as emollient and demulcent have been reported in reference literatures related to different systems of medicine in India. Other species of *Desmidophorus* are not used for this purpose. Even the *Desmidophorus* weevil feeding on Jason leaves are not considered fit for use. The traditional healers informed that since generations they are using this combination successfully. Its popularity among them clearly indicates its efficacy. In general, the healers do not disclose the secret formulation to the patients. Many healers informed that the other *Desmidophorus* species feeding on many other herbs possess different medicinal properties. The host plants play an important role in making the weevil medicinally rich. The healers further informed that the medicinally rich weevils select the potential plant among the plant population and by its specific movement, they can identify the potential weevils that can be used as medicine.

The above mentioned traditional medicinal uses of *Desmidophorus* herbs have yet not been reported in reference literatures. The traditional healers of Chhattisgarh Plains use it for other medicinal purposes also. I am trying my best to gather more information on related aspects.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. : 133.
Neem Ke Shurbut.**

Neem (*Azadirachta indica*) is a well known tree of medicinal and religious importance in Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. They use its all plant parts as medicine both internally as well as externally in treatment of common diseases. The dense forests of Chhattisgarh are rich in natural population of Neem trees. Neem Ke Shurbut is prepared by using its matured fruits. The natives consume its fruits with taste but the Shurbut prepared from these fruits are not much popular among them. The traditional healers of Chhattisgarh recommend this Shurbut very commonly to their patients. The traditional healers of Nagri-Sihawa region recommend this Shurbut during the treatment of fever. They are not in favour of using it in normal days. The traditional healers of Gandai-Salewara region recommend this Shurbut to the patients having the problem of intestinal worms. According to the healers, the regular use of Shurbut flushes out the intestinal worms effectively in very less time. In general, the traditional healers suggest the patients to consume this Shurbut under their supervision. To prepare the Shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are mixed to prepare the Shurbut.

For the botany, traditional and reported medicinal uses of Neem, please read my previous articles.

Leaf spot disease in Keukand (*Costus speciosus*) : A new problem in Chhattisgarh, India.

Keukand (*Costus speciosus*) is well known medicinal herb throughout India. Its tuberous rootstocks are considered as raw material for commercial production of diosgenin, a precursor of steroids including sex hormones and oral contraceptives. The dense forests of Chhattisgarh are rich in natural population of Keukand. In many parts of Chhattisgarh particularly in Chhattisgarh Plains, Keukand is under cultivation as commercial medicinal crop in fairly large areas. The Leaf spot disease was first observed at Chhattisgarh Plains in the year 1998. As during first year the infestation was not high, the herb growers ignored this new disease but since 1998, every year the area and intensity of this new disease are increasing. This disease is reported in many parts of India. According to the reference literatures, the casual organism is *Helicosticta costei*. The detailed surveys conducted in different parts of Chhattisgarh to identify the severity of problem and extent of spread revealed that the infestation of this disease is very less in wild population of Keukand. In most of the cases of wild population recovers very fastly from attack. The surveys revealed that the wild population of Keukand present in Southern Chhattisgarh is relatively more resistant to the disease attack as compared to the wild population present in other parts of Chhattisgarh. The herb growers engaged in commercial cultivation of Keukand have procured the planting material from other states. This is the reason, the intensity of trouble is very high in cultivated fields. In reference literatures, many remedies have been given to manage this disease in crop field, but all these remedies are chemical based. The herb growers of Chhattisgarh are raising this crop organically and this is the reason they are unable to use the agrochemicals to manage the pest. Many herb growers have taken the initiative to search the organic inputs in form of herbal combinations to manage this trouble. Their trials are still on. The traditional healers of Chhattisgarh aware of medicinal uses and properties of Keukand are also showing interest in this new disease. They are eager to evaluate the disease infested Keukand herb for its altered medicinal properties.

I personally feel that there is a strong need to conduct a systematic research in order to search the ecofriendly ways to manage this new disease that is becoming a headache in commercial farming of Keukand.

Thank you very much for reading the article.

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Traditional use of Lemon butterfly *Papilio demoleus* (Papilionidae: Lepidoptera) as insect repellent in Bagbahera region of Chhattisgarh, India.

The Lemon Butterfly *Papilio demoleus* (Papilionidae: Lepidoptera) is a highly destructive pest of many crops in India. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the larva of this insect feeding on Bael (*Aegle marmelos*) as medicine. The natives and traditional healers of Bagbahera region of Chhattisgarh use the Lemon Butterfly feeding on medicinal tree Bhirra (*Chloroxylon swietenia*) as insect repellent. Bhirra is a common tree grown naturally in this part of Chhattisgarh. According to the reference literatures, Bhirra (East Indian Satin wood tree) is a small tree and its wood is used for cabinet-work, high class furniture, decorative paneling, bent wood work, fine carving, musical instruments, golf club shafts etc. The wood pulp is suitable for preparing wrapping paper. The natives and traditional healers of Bagbahera region use the leaves of Bhirra to repel away the mosquitoes, but its use has its own limitation. The small children can not tolerate the smoke of burning leaves. During the ethnobotanical surveys conducted in Bagbahera region, I observed that many natives and traditional healers collect the *Papilio demoleus* caterpillars feeding on Bhirra leaves and after killing, dry it in shade. The dried caterpillars is converted into powder and stored for future use. Its most popular use is its use as mosquito repellent. According to them, the smoke coming from burning powder is more effective than the Bhirra leaves. It is also considered safe for the small children. The full fed caterpillars are used for this purpose. In general they burn the dry powder for one hour in their homes after closing all doors and windows. They informed that this simple treatment repels away the mosquito whole night. I have also noted during the survey that the cattle owners of this region burn the dry powder near to the cattle specially in rainy season to repel away the flies. The cattle owners also prepare a decoction by boiling this powder in water and wash the cattle with the helps of this decoction. They add more herbs like Neem, Kukronda (*Blumea lacera*) etc. with the larva powder in order to increase its efficacy. With the innovative entrepreneurs of this region, I am searching the possibilities of utilizing this powder in development of commercial product for Mosquito management.

The use of *Papilio demoleus* in this unique way has yet not been reported in reference literatures. I am feeling proud to document this important traditional knowledge. As this pest is common in many parts of the world, I am confident that the information on its utilization aspect will be of great importance for the researchers around the world.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 132. Kanta Manda Ke Shurbut.

Kanta Manda is a local name of *Cudrania cochinchinensis*. It is a spiny shrub distributed in many parts of Chhattisgarh particularly in the regions nearer to Orissa state. The natives and traditional healers of Chhattisgarh are not much aware of medicinal properties and uses of this herb. Kanta Manda Ke Shurbut is prepared by using its matured fruits. This preparation is not popular among the common natives. The traditional healers specialised in treatment of urinary troubles recommend the patients to use its fruits in form of Shurbut, in off-season, as supplement to main treatment. Many healers consider it promising in treatment of Pathri (Renal Calculi). They also add the leaf juice with fruit juice during the preparation of Shurbut in order to make it more promising. During the ethnobotanical surveys I got opportunity to interact with the patients getting benefits from this Shurbut. Their encouraging responses motivated me to popularize this traditional preparation among the natives particularly among the natives of young generation. To prepare the Shurbut the juice is extracted by crushing the matured fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). Shurbut is prepared by mixing juice and syrup. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Kanta Manda, please read my previous articles.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 131.
Duabi ke Shurbut.**

Duabi is a local name of *Desmos longiflorus* (Syn. *Unona longiflora*). It is a well known tree in many parts of Chhattisgarh particularly in regions nearer to Orissa state. The natives and traditional healers are aware of its presence but they are not much aware of its medicinal properties and uses. Duabi Ke Shurbut is prepared by using its fruits. The common natives are not aware of this preparation. The traditional healers of this region specialised in treatment of fever, use this Shurbut as supplement to main treatment. According to them, this shurbut acts as promising body tonic also. But as other promising alternatives are available, this Shurbut is losing its popularity among the traditional healers. This observation motivated me to document the information regarding this traditional preparation without any delay. To prepare the shurbut, the juice is extracted by crushing the fruits. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and syrup are mixed to prepare the Shurbut. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Duabi, please read my previous articles.

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Increasing attack of Rust disease: A new trouble for the herb growers of Chhattisgarh, India engaged in commercial cultivation of Dasmool (*Asparagus racemosus*).

According to the reference literatures, Dasmool is a straggling or scandent much branched, spinous shrub, distributed throughout tropical and subtropical regions of India. It is consumed as vegetable. The root is used as demulcent, aphrodisiac, diuretic, anti-dysenteric and as demulcent in veterinary medicine. Dasmool (or Satavar in Hindi) is under cultivation in Chhattisgarh since 1996. the dense forests of Chhattisgarh are rich in natural population of this medicinal herb. It is present in the list of medicinal herbs having regular demand at national and international markets. For the first time, the infestation of Rust disease has been observed by the herb growers of Chhattisgarh Plains. According to reference literatures, the causal organism of this Rust is *Puccinia asparagi*. The most common effects are the red small spots on leaves and yellowing of plant. This trouble causes great damage to the crop and results in poor yield. Unfortunately, no systematic research on this trouble has yet not been started by the plant pathologists of Chhattisgarh. Since 1996, I am regularly monitoring this trouble. You will be surprised to know that this trouble is existing only in Dasmool of cultivated origin. The pathogen is not attacking on herb present in wild. The herb growers informed that the planting materials purchased from neighbouring states are more susceptible to this trouble. After its infestation in Chhattisgarh plains during 1996, I have observed its infestation in Southern Chhattisgarh also but in this region the degree of infestation is very less. This is the reason the herb growers are not paying attention on it. In Northern-hilly regions of Chhattisgarh, the cultivation of Dasmool is not at commercial level. In this region I have yet not observed the infestation of this disease. In reference literatures, the use of many well known fungicides to manage this trouble is mentioned, but as Dasmool is under cultivation organically in Chhattisgarh, the herb growers have their own limitations. The innovative herb growers of Chhattisgarh plains have started the evaluation of herbal extracts and cow urine based formulations to manage this disease. They are getting little but promising treatments. When I informed them that the pathogen is not attacking on wild population of Dasmool, many of them asked for the samples from wild. They want to utilize this resistant plant type to manage disease problem in susceptible plant types. The methodology is very simple. They are planning to collect the first juice form resistant plant type and to spray it on susceptible plant type. According to them, this spray can prevent the attack of Rust pathogen. They are not sure about it but in other medicinal herbs they have used this methodology successfully. I have evaluated the effect of Dasmool juice on the growth of Dasmool plant through Allelopathic studies at laboratory level and found it safe as it do not produce any sign of autotoxicity. I have informed the herb growers about my findings. Now they can use the juice of resistant plant in more promising way. After completion of their trials, I will inform you about the results. The traditional healers of Chhattisgarh specialized in use of Dasmool are also taking keen interest in disease infested Dasmool. Many of them requested me for the samples of infested Dasmool. They are eager to evaluate the change in medicinal properties due to disease. I am aware that in response to attack, many herbs produce specific chemicals for defense and these chemicals can be used as medicine. Although for the plant pathologist the disease infested herbs are waste but for the traditional healers these are the source of valuable medicines.

The above mentioned information on various aspects of Rust disease of Dasmool has yet not been reported in reference literatures. These information and observations clearly indicate that by adopting broader view, we can change any problem into advantage for the benefit of mankind.

Thank you very much for reading the article.

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Traditional medicinal knowledge about medicinal insect *Papilio demoleus* (Papilionidae: Lepidoptera) feeding on Bael (*Aegle marmelos*), in Chhattisgarh, India.

According to the reference literatures, *Papilio demoleus*, the Citrus Butterfly, is a highly destructive pest in India and has a countrywide distribution. The damage caused by the caterpillar to host plant by defoliation is often serious. Seedlings and young plants suffer the most. The adult is a black and yellow swallow-tail butterfly. Eggs are laid singly or in groups of 2-3 on leaves. The larva grows feeding on the leaves. The full-fed caterpillar is stout and greenish in colour and pupates on the plant. In Chhattisgarh, this insect attacks on Bael (*Aegle marmelos*) leaves. Bael is well known herb of medicinal importance in Chhattisgarh. It is a medium sized thorny deciduous tree found in the plains and sub-montane regions of India. It is also under cultivation in many parts. The sweet aromatic pulp of fruit is edible whereas fruit rind yields tannin. The mucilaginous substance, secreted around seeds, is used in varnishes and cementing mixtures and also used as an adhesive. The fruits constitute the drug called Bel, which is chiefly used in chronic diarrhoea and dysentery. All parts of Bael possess valuable medicinal properties and the natives and traditional healers of Chhattisgarh have in depth traditional knowledge about different medicinal uses of Bael. During the ethnoentomological surveys conducted in different parts of Chhattisgarh particularly in Southern Chhattisgarh I have observed that many traditional healers, aware of infestation of *Papilio demoleus*, on Bael leaves collect the full fed caterpillars and use it both internally as well as externally in treatment of many diseases. It is used alone or in combination with other herbs. For internal use they prefer

the dried caterpillars. The caterpillars collected from Bael leaves are killed and dried in shade. Many healers prefer to keep it under moonlight during drying in order to get more promising results. The dried caterpillars are crushed into powder and stored for future use. For external uses, they prefer the freshly collected larvae. The traditional healers informed me that the use of Bael leaves in many combinations result in harmful effects. In such cases, the caterpillars can play an important role. Few healers use caterpillars with Bael leaves but most of the healers are not in favour of this use. The healers add the dry caterpillars in powder form, in popular herbal combinations used in treatment of all types of bleeding both internally as well as externally. They informed that the internal use of powder alone with lukewarm water is boon for the patients having poor digestion. They recommend its use upto fifteen days for complete cure. In general, they suggest the patients to use it in any part of the year, in the interval of three months, in order to maintain good health. The traditional healers of Kanker region use the freshly collected caterpillars in treatment of boils. In combination with Bariyara (*Sida acuta*) and Neem leaves, they prepare an aqueous paste and apply it externally on boils. It suppresses the boils effectively. According to the healers, the caterpillars play an important role in eliminating the heat of the boils.

The use of problematic pest *Papilio demoleus* as medicinal insect has yet not been reported from any part of the world. I am feeling proud to document this important traditional medicinal knowledge. I am confident that the positive attitude towards this insect will help us to prepare the strategies to utilize it for the benefit of human beings rather than to destroy it through harmful agrochemicals.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 236. Karoti Ke Sag.

Karoti is a local name of *Melastoma malabathricum*. It is an ornamental large shrub in moist and humid places in the country. The natives and traditional healers of Chhattisgarh are aware of its

natural presence in Chhattisgarh but they are not much aware of its medicinal properties and uses. Koroti Ke Sag (Curry) is prepared by using its leaves. The natives living in the regions nearer to neighbouring state Orissa are using this preparation. It is popular among the poor natives. The traditional healers are aware of its health benefits. They recommend this preparation to the patients having gynaecological troubles. According to them, its regular use helps in stopping all types of bleeding. They recommend it as supplement treatment with main treatment.

Material Required: Koroti leaves, Garlic (Lason), Tel (Oil), Hardi (Turmeric), Namak (Salt), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Koroti leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Koroti, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India, 130. Khip Ke Shurbut.

Khip is a local name of *Leptadenia pyrotechnica*. It is a much branched nearby leafless shrub distributed in many parts of Chhattisgarh. Its plant yields fiber which is suitable for making ropes

and paper. Khip ke Shurbut is prepared by using its slimy fruits. Very few traditional healers are aware of this Shurbut and with them, the knowledge is ending. This observation motivated me to include this preparation in this series. The traditional healers aware of this Shurbut informed me that the internal use of this Shurbut helps in maintaining the heat balance of human body. They recommend its use in treatment of diseases due to excessive heat inside the human body. To prepare the Shurbut, the fruits are boiled in water to prepare the decoction. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The decoction and Chashni are mixed to prepare the Shurbut. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Khip, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 235. Sundri Ke Burfi.

Sundari is a local name of *Heritiera fomes*. According to the reference literatures, it is a small or medium sized evergreen mangrove tree with buttressed stem commonly found in the Sundarbans and the deltaic region of Mahanadi. Its bark and leaves are used as tan and wood which is twice as hard as teak, is extensively utilized for boat-building, carts, carriages, firewood, bow of violin, planking, tool-handles, beams, fence posts etc. Although this is not a plant of Chhattisgarh but the natives and traditional healers are aware of its few but important medicinal uses. They are dependant on herb vendors coming from neighbouring state for the plant parts of Sundri. Sundri Ke Burfi is prepared by using its seeds. The traditional healers of Chhattisgarh recommend this preparation to the patients suffering from diarrhoea and dysentery, as supplement treatment. The natives are not much aware of this preparation. As other promising alternatives in form of herbal dishes are available, this dish is loosing popularity among the traditional healers.

Material Required: Sundri seeds, Besan (Gram flour), Cow ghee and sugar.

Method of Preparation: Sundri seeds are roasted and converted into fine powder. Separately, cow ghee is taken in pan and Besan is roasted. Powdered seeds are added and mixture is roasted further. After adding sugar in form of Chashni (Syrup). The thick mixture is spread on iron plate and after drying cut into square pieces. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal use of Sundri, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 234. Ketki Ke Burfi.

Ketki is a local name of *Agave americana*. According to the reference literatures, it is a stout herb native to South America, grown in gardens for ornamentation. It is planted along railway embankment and roadsides and suitable for hedging, fencing and checking soil erosion. It is also useful for seaside landscaping. Ketki is well known herb in Chhattisgarh. It is considered as medicinal herb and the natives and traditional healers are well aware of its medicinal properties and uses. Ketki Ke Burfi is prepared by using pulp of flowering stocks. This sweet preparation is popular among the poor natives. The traditional healers of Chhattisgarh Plains, are aware of its health benefits. They recommend it to the patients having urinary troubles. It is used as supplement to main treatment. I have observed during the ethnobotanical surveys conducted in different parts of Chhattisgarh that day by day the popularity of this preparation is decreasing among the natives and traditional healers. This observation motivated me to document the information regarding this sweet dish without any delay.

Material Required: Pulp of fruit stock, Besan (Gram flour), Cow ghee and sugar.

Method of Preparation: The Gram flour is taken in pan having cow ghee and roasted well. The pulp of flowering stock is added and the mixture is roasted further. Sugar is added in form of Chashni (Syrup). The mixture is spread on iron plate and after drying cut into square pieces. In many parts of Chhattisgarh, the natives use Gud (Jaggery) in place of sugar.

For the botany, traditional and reported medicinal uses of Ketki, please read my previous articles.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. : 129. Ankol Ke Shurbut.

Ankol is a local name of *Alangium salviifolium*. It is a small tree found in different parts of Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different parts of Ankol. They use it both internally as well as externally in treatment of many common troubles. Ankol Ke Shurbut is prepared by using its fruit pulp. This preparation is popular in Ankol rich areas of Chhattisgarh. They prepare and consume it for its specific sweet taste. They are not much aware of its medicinal uses and properties. In Ayurveda, the fruits are described as laxative, expectorant, carminative, anthelmintic, alexiteric and useful in inflammations, blood diseases, burning of body, wasting diseases, spermatorrhoea, gleet, acute fever and lumbago but its use in form of Shurbut is not mentioned. The traditional healers of Chhattisgarh use the fruit pulp of Ankol in form of Shurbut to treat above mentioned troubles. They recommend this preparation as supplement along with main treatment. To prepare the Shurbut, the fruit pulp is boiled in water and decoction is prepared. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The decoction is

added in hot Chashni to prepare the Shurbut. Once prepared in bulk, the Shurbut can be stored and used upto long time.

For the botany, traditional and reported medicinal uses of Ankol , please read my previous articles.

Ankol is a local name of *Alangium salviifolium*. It is a small tree found in different parts of Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different parts of Ankol. They use it both internally as well as externally in treatment of many common troubles. Ankol Ke Shurbut is prepared by using its fruit pulp. This preparation is popular in Ankol rich areas of Chhattisgarh. They prepare and consume it for its specific sweet taste. They are not much aware of its medicinal uses and properties. In Ayurveda, the fruits are described as laxative, expectorant, carminative, anthelmintic, alexiteric and useful in inflammations, blood diseases, burning of body, wasting diseases, spermatorrhoea, gleet, acute fever and lumbago but its use in form of Shurbut is not mentioned. The traditional healers of Chhattisgarh use the fruit pulp of Ankol in form of Shurbut to treat above mentioned troubles. They recommend this preparation as supplement along with main treatment. To prepare the Shurbut, the fruit pulp is boiled in water and decoction is prepared. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The decoction is added in hot Chashni to prepare the Shurbut. Once prepared in bulk, the Shurbut can be stored and used upto long time.

For the botany, traditional and reported medicinal uses of Ankol , please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 219. Dupaharia Ke Sag.

Dupaharia is a local name of *Mirabilis jalapa*. It is well known ornamental herb in Chhattisgarh. The traditional healers of the state are aware of its medicinal properties and uses. The traditional healers of Chhattisgarh Plains recommend the use of its leaves as Sag (Curry) in treatment of blood related disorders. It is considered as one of the promising blood purifiers. This preparation is not popular among the common natives. As other promising alternatives in form of herbs and herbal combinations are available that can be used in such troubles, the use of this curry is becoming less popular day by day. This observation motivated me to document the traditional knowledge about it without any delay.

Material Required: Dupaharia leaves, Lason (Garlic), Namak (Salt), Hardi (Turmeric), Tel (Oil) and Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. Dupaharia leaves and all other ingredients are added in pan and roasted well till the evaporation of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Dupaharia please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 218. Bara Gokhru Ke Sag.

Bara Gokhru is a local name of *Pedalium murex*. It is well known medicinal herb in many parts of Chhattisgarh. Although in reference literatures related to different systems of medicine in India it is mentioned that Bara Gokhru is a promising substitute to Gokhru (*Tribulus terrestris*) but the traditional healers of Chhattisgarh are not ready to consider Bara Gokhru only a promising substitute. According to them, in many ways, Bara Gokhru is medicinally far superior than the Gokhru. Bara Gokhru Ke Sag (Curry) is prepared by using its leaves. Its popularity among the traditional healers of Chhattisgarh specialised in treatment of different types of cancer has established it as a potential herb. The traditional healers of many regions use this preparation as supplement to main treatment of Gonorrhoea (Sujak). This preparation is not much popular among the common natives.

Material Required: Bara Gokhru leaves, Lason (Garlic), Tel (Oil), Namak (Salt), Hardi (Turmeric), Masale (Spices).

Method of Preparation: The oil is taken in pan and it is kept on fire. Bara Gokhru leaves and all other ingredients are added in pan and roasted well till the evaporation of watery contents. The curry is served hot with Bhat (Cooked Rice).

The traditional healers of Chhattisgarh are not in favour of long term use of this curry. Based on the vitality of the patients and severity of disease, the healers recommend different doses of this curry.

For the botany, traditional and reported medicinal uses of Bara Gokhru please read my previous articles.

Herbal dishes of Chhattisgarh, India. 217. Sonpatha Ke Sag.

Sonpatha is a local name of *Oroxylum indicum* (syn. *Calosanthes indica*). It is a small to medium sized deciduous tree found in many parts of India including Chhattisgarh. Its bark is used very commonly as medicine. The traditional healers of Chhattisgarh use this herb both internally as well as externally in treatment of many common troubles. Sonpatha Ke Sag is prepared by using its tender and unripe fruits. This Sag (Curry) is not popular among the common natives. The traditional healers recommend it to the patients having digestive system related troubles. It is considered as a boon for the patients having the problem of chronic constipation. Many healers use it as supplement remedy to rheumatic troubles also.

Material Required: Sonpatha tender and unripe fruits, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt) and Masale (Spices).

Method of Preparation: Oil is taken in pan and it is kept on fire. Sonpatha fruits are cut into small pieces and all other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Sonpatha, please read my previous articles.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 190.
Chhagulpuputi (*Euphorbia dracunculoides* family Euphorbiaceae).

Chhagulpuputi is a well known herb in Chhattisgarh. For the first time I got information about this herb from the natives of Bengali community in Ambikapur region. Chhagulpuputi is its Bengali name. The natives of other parts of Chhattisgarh have yet not coined its local name. They have kept it in the category of Van Duddhi (other Euphorbs). Although this herb is common in many parts but the traditional healers of Chhattisgarh are not much aware of its medicinal uses and properties. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on its traditional medicinal uses. The traditional healers of Chhattisgarh add the whole herb or leaves in herbal combination used in form to decoction to wash the body parts having skin related troubles. The cattle owners of many parts of the state also use the decoction in this way, particularly in rainy season when skin related troubles are common in cattle. During its use the traditional healers suggest the patients to avoid its entry into the eyes. In case of entry into the eyes, the patients are suggested to apply few drops of Andi (*Ricinus communis*) oil in it. In reference literatures the use of Chhagulpuputi fruit in treatment of warts is mentioned. The traditional healers of Chhattisgarh are aware of this use but they prefer other Euphorbia herbs for this treatment. The healers of Dalli-Rajhara region use this herb in treatment of respiratory troubles. Many healers add the dry herb in Herbal Cigarette used in treatment of Asthma. These traditional medicinal uses have yet not been reported in reference in literatures.

Officially, the name of Chhagulpuputi is not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh India. : Interactions with the Female Traditional Healers of Dalli-Rajhara region.

During the ethnobotanical surveys conducted in Dalli-Rajhara region, I got opportunities to meet and interact with Twenty One Female Traditional Healers. Through the interactions, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of this region are aware of many less known medicinal uses and properties of Semar (*Bombax ceiba*). They use all parts of this medicinal tree. In treatment of Dysentery, they suggest the patients to take Semar Lasa (Gond), in trade it is known as Mochrus, with Dahi (Curd), internally. This combination is taken many times a day. The use is continued till complete cure. I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use the flowers of Semar in form of Sag (Curry). This curry is considered as one of the promising treatments of gynaecological troubles. The Female Traditional healers of Dalli-Rajhara are also aware of this use. They consider it very useful in treatment of Metrorrhagia. The other healers use oil to prepare this Sag but the Female Traditional Healers of this region are in favour of using cow ghee in order to get more promising results. They use both fresh and dry flowers as medicine. For off season use they collect the flowers in bulk and dry it in shade. After drying the flowers are converted into powder and stored for future use. They use the freshly collected flowers in treatment of spleen related troubles. The flowers are dipped in water overnight and next morning the flowers are taken internally with Sarson (Mustard) seeds as treatment. They use the dry flowers in powder form in treatment of all types of bleeding. The powder is given internally in combination with Shahad (Honey). It is considered as one of the promising treatments. The healers are aware of aphrodisiac properties of Semar roots, also known as Semar Musli. When I started discussion on medicinal uses and properties of Thura (*Euphorbia neriifolia*), the Female Traditional Healers informed me about many unique uses. In treatment of Chilblains, they use the latex of Thura. The latex is boiled in Andi (*Ricinus communis*) seed oil and in combination with salt applied on affected parts as treatment. I have tried this combination many times successfully. Like Fudhar (*Calotropis gigantea*) leaves, in treatment of joint pains, the healers suggest the patients to tie lukewarm Thura leaves around the affected parts as sure cure. This use is common among the natives of this region also. In treatment of respiratory troubles particularly in case of small children, the healers extract the juice from lukewarm leaves and in combination with Shahad (Honey) and salt given internally. The same combination is also massaged on chest externally. According to

the healers both internal as well as external uses at a time cure the trouble effectively in very less time.

During interaction, the Female Traditional Healers informed about many medicinal uses of common soils and also about medicinal soils. They are aware of that the plants growing on any soil, play an important role in making the soil medicinally rich and vice-versa. I have collected some unknown information on this aspect. You will find the details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 127. Chalta ke Shurbut.

Chalta is a local name of *Dillenia indica*. It is a medium sized tree, native to the moist tropical forests of sub-Himalayan tracts and now cultivated in many parts of India including Chhattisgarh. Its English name is Elephant Apple. The natives of many parts of Chhattisgarh prepare Shurbut from Chalta fruits. The Shurbut is consumed for its specific delicious taste. The traditional healers of many region are aware of its health benefits. They recommend this Shurbut to the patients having troubles related to respiratory system. It is also considered as promising heart tonic. As its use is limited to few natives, I personally feel that there is a need to popularize this health drink among the common natives. To prepare the Shurbut, the fruit juice is extracted. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice is

added in Chashni to prepare the Shurbut. Once prepared in bulk, it is used round the year by diluting with water.

For the botany, traditional and reported medicinal uses of Chalta, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 216. Patal Kumhda Ke Sag.

Patal Kumhda is a local name of *Pueraria tuberosa*. It is well known herb of medicinal importance in Chhattisgarh. There is a regular demand of Patal Kumhda in national and international markets. Every year this herb generates good revenue for the state. In many parts of the world, it is considered as problematic weed, but the natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. In many parts of Chhattisgarh, the small tubers of Patal Kumhda are used as Curry (Sag). The poor natives consume it for its specific taste. The traditional healers of Chhattisgarh are aware of its health benefits. They consider this preparation as promising blood purifier. This is the reason it is recommended specially to the patients having skin related troubles. This preparation is also considered as promising body tonic. The patients having poor vitality or recovering from exhaustive troubles are suggested by the healers to never miss the chance of consuming this preparation during the availability period of small tubers.

Material Required: Small tubers of Patal Kumhda, Lason (Garlic), Namak(Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices).

Method of Preparation: The small tubers are cut into small pieces. Oil is taken in pan and it is kept on fire. The tuber pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). The natives of different parts of Chhattisgarh prepare it by using different methods.

For the botany, traditional and reported medicinal uses of Patal Kumhda, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 215. Bhelwa Ke Halwa.

Bhelwa is a local name of *Semecarpus anacardium*. Bhelwa is well known herb in Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different uses of Bhelwa. Bhelwa ke Halwa is a sweet dish prepared by using its fruits. This dish is not much popular among the common natives. The traditional healers of Southern Chhattisgarh prepare this dish for specific purpose. It is considered as a boon for the patients having fractured bone. Its internal use not only helps in reunion but also it reduces the intense pain. The traditional healers suggest the patients its use under their supervision. Many times they prepare it at home and give it to the patients coming for regular treatment.

Material Required: Bhelwa fruits, Cow ghee, Wheat flour and Sugar.

Method of Preparation: In cow ghee, Bhelwa fruits are fried well. After frying the fruits are thrown away. The ghee is used to prepare the Halwa. The Wheat flour and cow ghee are

roasted well in pan and by adding sugar, Halwa is prepared. The Halwa is served hot. Due to the toxic nature of Bhelwa fruits, the healers prefer its use under their supervision.

For the botany, traditional and reported medicinal use of Bhelwa please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 189. Chhoti Duddhi (*Euphorbia thymifolia*, Family Euphorbiaceae)

Chhoti Duddhi is a well known herb in Chhattisgarh. It grows as wasteland and field weed in almost all parts of the state. In reference literatures related to weed sciences, it is mentioned as problematic weed in many parts of India. It competes with agricultural crops with light, moisture and nutrients and decrease the final yield. For the Farmers of Chhattisgarh it is not a problematic weed. They are aware of its many medicinal properties and uses. You will be surprised to know that in many parts of the state, the farmers collect this herb from Crop fields in bulk and sell it to local herb traders. There is a fair demand of this herb in these parts. The traditional healers and herb collectors of Chhattisgarh are also aware of its presence and on-going trade. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this herb. I have mentioned in previous articles that when the farmers get injuries during field works they use many herbs growing in crop fields as first aid measure to stop the bleeding. The name of Chhoti Duddhi is present in the list of these promising herbs. The traditional healers of Bagbahera region add the whole herb of Chhoti Duddhi in powder form, in popular herbal combinations used in treatment of respiratory troubles. The traditional healers of Gandai-Salewara region suggest the patients having the problem of chronic constipation to use this herb in form of curry. It is considered as one of the promising treatments. In reference literatures related to different systems of medicine, the use of its seeds in treatment of intestinal trouble is mentioned. The traditional healers of Chhattisgarh are also aware of this use, but as other promising alternatives are available, it is used less commonly. In treatment of skin related troubles particularly in case of Ringworm, the traditional healers prepared a special herbal combination by mixing whole

herb of Duddhi, Charota (*Cassia tora*) and Bemchi (*Psoralea corylifolia*) seeds. All ingredients are mixed in equal proportion and with the help of cow urine, an aqueous paste is prepared. This paste is applied on affected parts as treatment.

Botanically, Chhoti Duddhi is a little annual plant with red coloured, hairy and quite prostrate branches; Leaves small, opposite, oblique, ovate, serrate; Flowers axillary, crowned, on short stalks; Lobes of the involucre white with and red, crenulated.

Through the Allelopathic studies conducted to evaluate the Allelopathic potential of different plant parts of Chhoti Duddhi, I have identified many promising extracts and leachates that can be used for commercial production of Agricultural crops. With the help of organic growers of Chhattisgarh, now we are conducting field trials to standardize the doses of extracts and leachates. These initial studies have shown that the different plant parts of Chhoti Duddhi can be used successfully for commercial crop production. You will find the details in coming articles.

Officially, the name of Chhoti Duddhi is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. But as mentioned earlier, in fact, it is in trade from the state.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Female Traditional Healers of Ambikapur region.

During the ethnobotanical surveys I got the opportunity to meet and interact Eighty Female Traditional Healers of Ambikapur region. Through the interactions, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of this region are aware of many promising medicinal uses and properties of Bambri (*Acacia nilotica*) tree. In treatment of diarrhoea, common in small children, they use Bambri leaves in combination with Flower bud of Anar (*Punica granatum*) and Zeera (Cumin). Based on the severity of problem, the healers decide the dose. All ingredients are mixed in equal proportion but the healers informed that Bambri leaves play leading role in this combination. Many times the healers extract the juice from leaves and with the help of powdered bud and Zeera, prepare small globules. The use is continued till complete cure. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the decoction of Bambri bark to wash the vagina in case of Leucorrhoea. The Female Traditional Healers of Ambikapur region are also aware of this use. They informed that in order to get more promising effects one must mix Bambri roots and bark in equal proportion and use in same way. This was new information for me. The healers further informed that this decoction can be used internally in treatment of Sujak (Gonorrhoea). The healers of other parts use the decoction of bark only. In reference literatures related to different systems of medicine in India, very few details are available regarding medicinal uses and properties of Bambri root. Also through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I got very little information on this aspect. I am feeling fortunate to document the unique uses of Bambri roots that are in existence in Ambikapur region. The Female Traditional Healers of this region prepare a special herbs oil by using Bambri roots. The freshly collected roots are boiled in base oil. When all watery contents evaporate the boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) oil is used. This special oil is applied on forehead and soles in treatment of patients having mental trouble. The healers have deep faith in this oil. They give it to the patients in small amount without disclosing the secret formulation. After understanding the importance of on-going documentation work they disclosed this secret formulation to me. I have tried this herbal oil many times on the patients successfully. In treatment of common eye troubles the healer uses the leaf juice of Bambri in combination with Shahad (Honey). According to the healers in most of the cases this simple treatment cures the trouble. Satyanashi (*Argemone mexicana*) grows as wasteland weed in this part of Chhattisgarh. When I started discussion on this herb the Female Traditional Healers informed about some less known uses of Satyanashi. They use the dry root powder of Satyanashi in treatment of troubles related to

respiratory system. The root powder is given internally with cow milk. According to the healers, its use clears the respiratory tract and it is specially suitable for the patients having Asthma. They use its seeds in combination with Sarson (Mustard seed) oil externally in treatment of skin related troubles.

The in depth traditional knowledge about different medicinal uses of Bambri plant parts, the Female Traditional Healers of Ambikapur region are having, is the matter of appreciation. They informed that they have protected all the ancient knowledge and practising it in treatment of common troubles successfully. This is good sign.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 214. Bavasir Bar Matta.

Bavasir is a local name for the Piles. The traditional healers of Chhattisgarh specialized in treatment of Bavasir, recommend the use of this specially prepared Mattha (Whey). The common natives are not much aware of this preparation. As main ingredient Chita (*Plumbago zeylanica*) roots are used to prepare this Mattha. The traditional healer of Bastar region, Shri Vishal Bharat, informed me for the first time about its use. He was using and recommending it to the patients very commonly. Chita is well known medicinal herb in Chhattisgarh. The dense forests are rich in natural population of this herb. To prepare this preparation, the roots of Chita are collected and dried in shade. After drying it is converted into powder and kept for future use. The roots growing in north direction are considered best for the preparation of Mattha. The healers collect it on Sundays only. The powdered roots are converted into an aqueous paste. This paste is applied in form of thin layer inside the earthen pot and allowed to dry. In this pot,

warm cow milk is added and the process of Curd (Dahi) making is done. After curd formation, it is converted into Whey (Mattha). This Mattha is taken twice a day as treatment. A glassful Mattha is one time dose. It is considered as a boon for the patients having the problem of bleeding piles. Its internal use stops the bleeding immediately. Besides its use in piles, it is also considered beneficial in treatment of other troubles related to digestive system. I have experienced its miraculous effects many times.

For the botany, traditional and reported medicinal uses of Chita, please read my previous articles.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Female Traditional Healers of Mungeli region.

During the ethnobotanical surveys in Mungeli region, I got opportunities to meet and interact with Twenty Nine Female Traditional Healers. Through the interactions with them, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In treatment of Bavasir (Piles), the Female Traditional Healers of Mungeli region use the fruits of Nagkesar (*Mesua ferrea*). The fruits are dipped in water overnight and next morning in combination with Shahad (Honey), it is given internally. They informed that in long term use this combination gives good results. They suggest the patients its use even after the complete cure in order to prevent further attack of Piles. This use is mentioned in reference literatures related to different systems of medicine in India. This is good to observe that the Female Traditional Healers are still practicing the traditional knowledge with faith. The popularity of this use among them clearly indicates its efficacy. Gondla (*Cyperus* sp.) is a well known herb in this part of Chhattisgarh. In treatment of Dysentery, they use its nuts with cow milk. The nuts are boiled in cow milk and thick solution is prepared. This solution is given many times a day as treatment. The healers have deep faith in this traditional use. In case of injuries, the traditional healers

suggest the patients to roast its nuts in cow ghee and apply it externally in form of aqueous paste on affected parts. According to them, this application increases the process of healing. When we started discussion on Parsa (*Butea monosperma*), the Female Traditional Healers informed me about many promising uses of its different plant parts in treatment of many common diseases. In treatment of Dysentery, they use the fruit pulp of Parsa in combination with cow milk. In order to stop all types of bleeding, both internal as well as external, the healers give the freshly extracted juice of Parsa bark internally in combination with sugar. The use is repeated till complete cure. According to them, in most of the cases this simple combination cures the trouble effectively in very less time. The issueless couples are advised by the Female Traditional Healers to boil one leaf of Parsa daily in a glassful of cow milk and take it internally. According to the healers, the long term use of Parsa leaf in this way gives good results. During the surveys, I got opportunities to meet the patients who have benefited from this use. Their encouraging response motivated me to popularize this use among such couples in other parts of Chhattisgarh. The healers are also aware of use of Parsa beej (seeds) in case of scorpion bite but as other promising alternatives are available it is used less commonly.

I have observed during the interactions that the Female Traditional Healers of this region are eager to transfer the knowledge regarding herbs to the safe hand but they are discouraged with the poor response of young generation. This is not a good sign.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female Traditional Healers of Dhamtari region.

During the ethnobotanical surveys in Dhamtari region I got opportunities to meet and interact with Eighteen Female Traditional Healers. Through the interaction I have collected many

valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Dhamtari region are aware of many medicinal uses and properties of Dhikuar (Aloe vera) herb. This is well known herb in this part of Chhattisgarh. In treatment of Jaundice, the Female Traditional Healers suggest the patients to apply few drops of its juice into the nostrils daily morning. According to them, it acts as promising supplement to main treatment. They further informed that at initial stages, many times this treatment alone can cure the trouble in a miraculous way. In treatment of spleen related troubles, particularly in enlargement of spleen the healers suggest the patients to take the pulp of Dhikuar in combination with Namak (Salt) and Haldi (Turmeric). The combination is given daily morning once in a day and the use is continued till complete cure. In most of the cases, few doses of this combination roots out the troubles. The pulp is also used in treatment of gynaecological troubles. The pulp is roasted slightly and in combination of Gud (Jaggery) given internally to the patients. It is considered as one of the promising treatments in treatment of Amenorrhoea. It also helps in reducing stomach pain and Lumbago. I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use the Dhikuar pulp in treatment of injuries, burns and wounds. The Female Traditional Healers of Dhamtari region are also aware of these uses. They informed that in early days the availability of Dhikuar was relatively easy, but now a days they have to travel long in search of Dhikuar in natural forest. This is the reason, many healers have planted this herb in home gardens for its use round the year. As you know, the common natives do not plant this herb in home gardens. It is common belief among them that the presence of this herb results in mental tension in family members. The Female Traditional Healers denied any such harmful effect. In treatment of gynaecological troubles, these traditional healers also use Zeera (Cumin). Zeera seeds are roasted and in combination with sugar given internally to the female patients having the problem of Safed Pani (Leucorrhoea). They also use the Zeera in form of aqueous paste and apply into the eyes as treatment to eye related troubles. It is used as home remedy. In case of complications, they start systematic treatment. The patients having the trouble related to digestive system are advised by the Female Traditional Healers to roast the Zeera and Dhanisa seeds (Coriander) mixed in equal proportion with the help of cow ghee and take the combination many times a day. It is considered as good appetizer. When we started discussion on Dhawai (Woodfordia fruticosa), the healers informed about many unique uses. They use the combination of Dhawai Phool (Flower) and Boir (Ziziphus sp.) leaf juice in treatment of Dysentery. The aqueous extract of both plant parts are mixed in equal proportion taken internally with Dahi (Curd). In treatment of fever with Dysentery, the healers use the aqueous extract of Dhawai phool and Sonth (Dried Ginger) internally. This use is very popular among them. Many healers use the combination of Dhawai phool with Lodh (Symplocos racemosa) in treatment of Diabetic carbuncle.

You will be surprised to know that these Female Traditional Healers are not in contact with each other. When I informed them that many other Female Healers are practicing in this region they showed surprise and eagerness to meet these Healers. I am planning to organize the traditional healers meet very soon in this region. I am confident that this meet will result in some fruitful discussion and I will get some new information for documentation.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 233. Patal Tumbi Ke Sag.

Patal Tumbi is a local name of *Ceropegia tuberosa*. It is a climbing herb found in different parts of Chhattisgarh. It is one of the less known herbs of Chhattisgarh. Patal Tumbi Ke Sag (Curry) is prepared by using its Kanda (Tuber). This preparation is popular among the poor natives. They consume it for its specific taste. The traditional healers are aware of its health benefits. They recommend it to the patients having the troubles related to digestive system. It is considered useful in treatment of Piles (Bavasir). The healers suggest the patients to use the tubers only after treatment. The tubers are cut into small pieces and these pieces are dipped in water overnight. The leachate is drained out next morning and tuber pieces are used as vegetable. In other method, the tuber pieces are boiled in water and remains are drained away. The first method is considered more promising.

Material Required: Patal Tumbi Tuber Pieces, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric) and Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Tuber pieces and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice). The natives of different regions prepare it by using different methods.

For the botany, traditional and reported medicinal uses of Patal Tumbi, Please read my previous articles.

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Jatropha Leaf Miner *Stomphosistis thraustica* Meyrick (Gracillariidae; Lepidoptera) as medicinal insect in Chhattisgarh, India.

Ratanjot (*Jatropha curcas*) is a shrub or small tree, native to tropical America and is now naturalized in many parts of India. It is under cultivation as promising petro crop in many parts also. In Chhattisgarh, *Jatropha* is considered as medicinal herb. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. I have mentioned in previous articles that on the basis of different agro-climatic region, *Jatropha* Plant types can be categorized according to these regions. Besides *Jatropha curcas*, many other species also grow naturally in Chhattisgarh. The traditional healers of Chhattisgarh use all parts of *Jatropha* both internally as well as externally as medicine but according to them there is a limitation in use of its leaves specially in case of internal use. The over or wrong dose results in harmful effects. Since long time, the healers were in search of herbs that can nullify the harmful effects of *Jatropha* leaves. The increasing infestation of *Jatropha* Leaf Miner *Stomphosistis thraustica* in *Jatropha* is although a bad news for the *Jatropha* growers but it is good news for the traditional healers utilizing the insect particularly the green coloured larva. The infestation of this insect has been observed by the researchers during 1997-1998 for the first time in Chhattisgarh Plains but the traditional healers using this insect as medicinal insect are aware of its presence since decades, in Chhattisgarh. They claim that this insect is present in almost all *Jatropha* regions. When this insect started attack on cultivated *Jatropha* the researchers paid attention on it. Like other pest, they are not thinking on its utilization aspect. They are screening the lethal insecticides and ways to dump it in crop fields for its control. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Chhattisgarh Plains are using *Jatropha* Leaf Miner as medicinal insect more commonly than the healers of other regions. The larvae collected just before the pupation is considered best for the

preparation of medicine. The newly borne larvae is not used. After the collection of Larvae, it is dried in shade and after drying it is converted into dry powder and kept for future use. The traditional healers use this powder internally as Galactagogue. The powder is given internally with lukewarm water in order to increase the flow of milk in lactating women. Many healers use the decoction of powder to get more promising effects. The use of powder gives more promising results as compared to the *Jatropha* leaves, the healers claimed. Its use also reduces the duration of treatment. The traditional healers of Southern Chhattisgarh use the larvae in treatment of common fever. For the preparation of medicine they dry the larvae in moon light and converted it into powder. This powder is taken internally in combination with other herbs mainly Kalmegh (*Andrographis paniculata*). According to the healers, in herbal combination, the larvae powder plays an important role. The traditional healers are in search of new uses of *Jatropha* Leaf Miner. I am in regular contact with these healers. You will get more details in coming articles.

The herb collectors of Chhattisgarh informed me that many other insect species infest the *Jatropha* plants and few healers are aware of the medicinal properties of these insects. I am trying my best to meet these healers and document the traditional knowledge. The infestation of *Jatropha* Leaf Miner is reported in many parts of India but the researchers have not focused their studies on utilization aspect of this so called problematic insect. Through this article I would like to request the researchers to come forward and start research on this important aspect after meeting with the traditional healers of their regions.

Thank you very much for reading the article.

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Recent studies on the Allelopathic potential of excreta of Bird species Feeding on Chrysolina leaf beetle *Chrysolina madrasae* Jackoby (Chrysomelidae : Coleoptera).

Kukronda (*Blumea lacera*) is well known medicinal herb in Chhattisgarh. It grows as wasteland plant in winter season. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different medicinal uses and properties of Kukronda. They use it both internally as well as externally in treatment of many diseases. I have mentioned in previous articles that the traditional healers specialized in use of medicinal insects, use the leaf beetle (*Chrysolina madrasae*) feeding on Kukronda as medicinal insect. They also use its excreta in treatment. In my Allelopathic studies I have found that the different plant parts of Kukronda possess unique Allelopathic potential that can be utilized in promotion of early crop growth and vigour of many agricultural crops particularly Wheat and Gram, but the leachate and extracts of different plant parts of Kukronda specially its leaves are not suitable for all crops. I have also mentioned in previous articles that the extract of *Blumea* leaf beetle excreta, collected after 12 hours of feeding on Kukronda leaves, can be used to eliminate the harmful effect of Kukronda leaves.

The crop seeds are soaked in extract of excreta before sowing and used in same manner like the use of leachate and extracts of plant parts in order to increase the initial growth and vigour. In case of Koda millet (*Paspalum scrobiculatum*), the use of Kukronda leaf extract as pre-sowing soaked treatment gives less promising effects as compared to the extract of *Blumea* leaf beetle, but the concentrated extract of *Blumea* leaf beetle produces harmful effects on crop growth. To eliminate, this effect and to get more promising source of *Blumea* (Kukronda) chemicals, an idea came into my mind to evaluate the Allelopathic potential of excreta of Bird species feeding on *Blumea* leaf beetle. In reference literatures, very less references on *Blumea* and *Blumea* leaf beetle are available but there is no record of Bird species feeding on *Blumea* leaf beetle. To identify, these species, many field surveys were conducted in different parts of Chhattisgarh. The surveys revealed that the bird named Cattle-Egret; consume the adult beetles exclusively and in bulk. With the help of field workers, the Birds of this species are collected and from them excreta is collected. Initially through pot experiments and latter by field trials, the Allelopathic potential of Bird excreta has been evaluated. The results are according to the expectation. After passing through the digestive tract of Bird, the *Blumea* chemicals loose harmful parts and as result the Bird Excreta gives more promising results. The details studies on medicinal and aromatic crop are in progress. The research methodology adopted in this study is absolutely a new methodology and I personally feel that this methodology can be very useful for the researchers engaged in in-depth studies related to Allelopathy.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 232. Mainphal Ke Burfi.

Mainphal is a local name of *Randia dumetorum*. It is well known herb in Chhattisgarh. It is popular among the traditional healers for its emetic properties. Its English name is Emetic nut. Mainphal ke Burfi is prepared by using its roasted fruits. The senior natives of many parts of Chhattisgarh prepare and consume this sweet preparation for its specific Almond like taste. The traditional healers are aware of its health benefits. According to them the judicious use of this preparation flushes out the intestinal worms effectively in very less time. Most of the traditional healers are not in favour of its regular consumption although it is a very tasty preparation.

Material Required: Mainphal fruits (dry), Besan (Gram flour), Ghee and Sugar.

Method of Preparation: The Mainphal fruits are cut into small pieces and roasted well in pan. Besan and cow ghee are added in pan and the combination is further roasted. Sugar is added in form of Chashni (Syrup). The thick combination is spread in plate and cut into small square pieces. Once prepared in bulk, Mainphal Ke Burfi can be consumed and stored upto long time.

For the botany, traditional and reported medicinal uses of Mainphal, please read my previous articles.

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Interactions with the herb researchers and lovers at NIF, Ahmedabad, India.

As a member of Research Advisory Committee of NIF (National Innovation Foundation), Ahmedabad, I got opportunity to attend a group meeting held at Indian Institute of Management (IIM) on 11-12th Feb. 2004. During this meeting, I interacted with many herb researchers and lovers from different corners of India and collected interesting information. I am giving the details in present article.

In the meeting, an eminent botanist Dr. M.M. Bhandari was with me. He is well known Desert Botanist of India. At present he is about 75 years old but by seeing his enthusiasm and dedication for works, he looks more younger than the young researchers. I informed him about on-going documentation work in Chhattisgarh and about the research articles at Botanical.com. He appreciated this work and informed that in his time there was no powerful media like internet. He has published about 100 research papers. I suggested him to write his experiences in informal way in-form of research articles at internet in order to share the in depth traditional knowledge he is having. He accepted that the research papers published in science journals have its own limitations and through these papers, it is very hard to express full details. When I informed him about the discovery of new herbs during my ethnobotanical surveys conducted in different parts of Chhattisgarh, he suggested its immediate registration after identification. In India many plant species are named on the name of Dr. Bhandari. He has in depth traditional knowledge about medicinal insects and other animals. Living with his professor in desert upto long time, he observed the folk uses of insects but being Botanist not reported the information. I suggested him to publish it as like plants, the traditional medicinal knowledge about insects is equally important. I further suggested him to discover the herbal combination that can reduce

his age upto 30 years so that the whole world community can be benefited with his in depth knowledge. I have traveled a lot and interacted with many eminent researchers but yet not found the researcher like Dr. Bhandari.

The herb growers of Orissa and Tamilnadu states of India met me during the meeting and informed about the on-going cultivation of medicinal and aromatic crops. Shri Indramani Sahu from Jagannathpur has planted many herbs in his home garden. He showed interest in commercial cultivation of Sarpagandha (*Rauvolfia serpentina*) but complained that in Orissa there is no promising market for medicinal herbs including Sarpagandha. He further informed that the surrounding regions are rich in natural bio-diversity and many rare herbs are present. I suggested him to start the cultivation of Bach (*Acorus calamus*) in paddy fields as there is a potential market of Bach. I presented him my book on this medicinal crop. He informed that due to poor information regarding cultivation as well as marketing many herb growers are getting depressed. This is not a good sign. The herb growers of Tamilnadu state informed that they have planted Aloe vera in bulk on the basis of recommendations of experts but now no one is ready to purchase it and as result now they are planning to root out the herbs and burn it. Many farmers informed that they are getting good returns from commercial cultivation of Coleus but they are not confident that how long this trend of good return will exist. Shri Lalmauzuala Chinzah, Manager, GIAN-North East informed that in his region i.e. Assam, they are not only cultivating the aromatic grasses successfully but also extracting the essential oil. They are selling it to Kolkata city at fairly high prices. They are also cultivating Vanilla bean successfully. He showed interest in Bach farming. Shri Kavaljeet from Uttaranchal state informed me that the herb suppliers of other states are cheating the new farmers of his state by giving inferior planting materials at very high prices. This is good effort that Shri Kavaljeet is trying his best to aware the common farmers about the cheating. The innovators of Assam informed that they are using Andi (*Ricinus communis*) plant to rear silk worm and they have given a new home of this practice i.e. Ericulture (E-for Erand, another name of Andi). The innovators, informed that the different life stages of this silkworm possess different medicinal values. These medicinal values are not reported in literatures. I suggested them to give the details to NIF database without any delay. The innovators of Jodhpur also informed about some unique medicinal uses of common wasp.

Chhattisgarh, a lesser known state from traditional knowledge point view earlier, is now in the list of young as well as old researchers, eager to conduct ethnobotanical surveys. They informed me that the research articles at Botanical.com have encouraged them to conduct the surveys at Chhattisgarh. I suggested them that like Chhattisgarh, the other states of India are also rich in natural bio-diversity and traditional knowledge and it will be better, if they concentrate their studies in areas from where they are working and living since birth.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 229. Marenga ke Sag.

Marenga is a local name of *Fagara oxyphylla* (Syn. *Zanthoxylum oxyphyllum*). This is shrub found in few parts of Chhattisgarh particularly in Pendra region. The traditional healers and natives are not much aware of its medicinal properties and uses. Marenga Ke Sag is prepared by using its young shoots. This Sag (Curry) is popular among poor natives. Many traditional healers are aware of its health benefits. According to them this Sag is beneficial for the patients having the problem of Piles (Bavasir) particularly the bleeding Piles, but as other promising alternatives are available it is used less commonly.

Material Required: Marenga young shoots, Lason (Garlic), Tel (Oil), Hardi (Turmeric), Namak (Salt), Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. Marenga young shoots are cut into small pieces. The small pieces and all other ingredients are added in pan and roasted well. The curry is serve hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Marenga, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 228. Kali Musli Ke Roti.

Kali Musli is a local name of *Curculigo orchoides*. It grows as medicinal herb in many parts of Chhattisgarh. The dense forests of Chhattisgarh are rich in its natural population. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. Kali Musli Ke Roti (Chapati) is prepared by using its dry roots. This preparation is used as medicine. The common natives are not much aware of this preparation. The traditional healers of Gandai-Salewara recommend the internal use of Roti, to the patients having gynaecological troubles specially Metrorrhagia. The Roti is prepared only by using Kali Musli root flour. The traditional healers of Narharpur region are not in favour of using the flour alone. They add the flour in Roti (Chapati) prepared by commonly using wheat flour (Gahun Ata). The use of Roti is very common among the traditional healers and its popularity among them clearly indicates its efficacy. As Roti is prepared by using standard method, common with normal Roti, I am not describing method. I have yet not found the details regarding this preparation and its medicinal uses in the reference literatures related to different systems of medicine in India.

For the botany, traditional and reported medicinal uses of Kali Musli, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 227. Dahia Ke Murabba.

Dahia is a local name of *Strebulus asper*. It is a large shrub or tree distributed in many parts of Chhattisgarh. The natives and traditional healers are less aware of its medicinal properties and uses. Dahia ke Murabba is prepared by using its fruits. This Murabba is not popular among common natives. The traditional healers of Chhattisgarh Plains prepare and recommend this preparation to the patients recovering from exhaustive troubles as body tonic. They are not aware of its other health benefits. The traditional healers of other parts of Chhattisgarh are aware of this preparation but as other promising alternatives are available, it is not used commonly.

Material Required: Dahia fruits and Sugar.

Method of Preparation: The fruits are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). Boiled fruits are added in Chashni to prepare the Murabba. Once prepared in bulk, it is used round the year as per the recommendations of the traditional healers.

For the botany, traditional and reported medicinal uses of Dahia, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 226. Ramdataun Ke Sag.

Ram Dataun is a local name of *Smilax zeylanica*. Ramdataun is a well known shrub in Chhattisgarh. Its twigs are used as Dataun (Herbal Tooth Brush) in many parts of Chhattisgarh. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that traditional healers of Southern Chhattisgarh use this medicinal herb very commonly as medicine. Ramdataun ke Sag is popular among the natives of Bhopalpatnam region. They consume it for its specific taste but the traditional healers of this region consider this preparation promising in treatment of digestive system related troubles. They use it as supplement treatment with main treatment.

Material Required: Ramdataun young shoots and leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices) etc.

Method of Preparation: The oil is taken in pan and pan is kept on fire. Ramdataun young shoots and leaves are chopped into small pieces and in combination with other ingredients added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Ramdataun please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 225. Domsal Ke Murabba.

Domsal is a local name of *Miliusa velutina*. This tree grows naturally in many parts of Chhattisgarh. According to the reference literatures, its wood is used for tool-handles, gun-stocks, packing cases, furniture and cabinet-making. The traditional healers and senior natives

are not much aware of this herb. Domsal Ke Murabba is prepared and recommended by the traditional healers of Southern Chhattisgarh. It is prepared by using Domsal fruits. The healers consider both fruits and its Murabba very useful in treatment of chronic constipation. They suggest the patients to use raw fruits till the fruiting season and use Murabba for off-season use. The common natives are not aware of this preparation.

Material Required: Domsal fruits and sugar.

Method of Preparation: Domsal fruits are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The boiled fruits are added in Chashni and Murabba is prepared.

For the botany, traditional and reported medicinal uses of Domsal, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 224. Nagkesar ke Murabba.

Nagkesar is a local name of *Mesua ferrea*. It is well known herb in Chhattisgarh particularly in the regions at Orissa state border. The traditional healers and senior natives of Chhattisgarh are well aware of its medicinal properties and uses. They use it alone and in combination with other herbs in treatment of many common troubles, but the traditional healers of the state are not much aware of Herbal dish Nagkesar Ke Murabba. According to the traditional healers of Bagbahera region, this dish was in use in early days and was very popular among the traditional healers. The healers were recommending this preparation as cardio-tonic. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I asked the healers about this dish but no one came forward with any information. The traditional healers of Bagbahera

region are aware of its method of preparation but they have no reason explaining why this dish is not popular in present time? I am trying my best to gather more information of this dish.

Material Required: Nagkesar fruits and Sugar.

Method of Preparation: The fruits are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The boiled fruits are added in Chashni and the combination is kept under moonlight for one month. Once prepared in bulk, it can be used round the year.

For the botany, traditional and reported medicinal uses of Nagkesar, please read my previous article.

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Herbal dishes of Chhattisgarh, India. 231. Chirpoti Ke Sag.

Chirpoti is a local name of *Physalis minima*. It grows as common weed in wastelands and crop fields. The natives and traditional healers of Chhattisgarh are aware of its medicinal properties and uses. The farmers also consider it as medicinal weed. Chirpoti ke Sag is prepared by using its leaves. This preparation is popular among the poor natives. They consume it for its specific taste. The traditional healers are aware of its health benefits. The patients having the troubles related to digestive system are suggested by the healers to consume this curry (Sag)

throughout its growing season. It is also considered useful for the patients having Bavasir (Piles).

Material Required: Chirpoti leaves, Lason (Garlic), Haldi (Turmeric), Tel (Oil), Namak (Salt), and Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. The Chirpoti leaves and all other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Chirpoti, please read my previous articles.

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Traditional medicinal knowledge about Khursani Ajwain (*Hyoscyamus niger*, family Solanaceae) in Chhattisgarh, India.

As Homoeopath, I am aware of valuable medicinal properties of *Hyoscyamus niger* as Homoeopathic medicine. It is one of the favorite remedies for me. An eminent Homoeopath Dr. E.A. Ferrington truly describes the symptoms of *Hyoscyamus* in his famous book 'The Clinical Material Medica' that '*Hyoscyamus* seems to be especially adopted to acute mania which has without any evidence of absolute inflammation, to mania which has for its key-note extreme excitation of the sensorium. The patient under such circumstances has many strange notions, all arising from these abnormal impulses. He imagines, for instance, that he is about to be poisoned. Possibly he will refuse your medicine, declaring in angry tones that it will poison him or he imagines that he is pursued by some demon or that somebody is trying to take his life.' In

these symptoms Hyoscyamus acts as promising drug. Although the traditional healers and herb collectors claim that Khursani Ajwain is present in wild in many parts of Chhattisgarh but the reference literatures on flora do not support this natural presence. I have also not seen it in wild. During the ethnobotanical surveys this natural presence. I have also not seen it in wild. During the ethnobotanical surveys conducted in different parts of Chhattisgarh when I noted that the traditional healers and herb collectors have rich traditional medicinal knowledge about this herb, I decided to gather the available information and document it through the research articles. I have observed that many traditional healers specialized in use of Khursani Ajwain are growing this herb in their home gardens for the specific uses. But the majority of the traditional healers are dependent on the herb vendors coming from neighbouring states for the fresh as well as dry herb and its parts. Few years back, many innovative herb growers of Chhattisgarh Plains tried the commercial cultivation of Khursani Ajwain as medicinal crop. The growth was satisfactory but from medicinal values point of view, the produce was far inferior from the produce we are getting from neighbouring states. The chemical analysis reports confirmed this. Later, when the samples were given to the traditional healers they rejected it. In Southern parts the field trials are still in progress. The traditional healers planting this herb in home gardens are also not satisfied with the performance of Khursani Ajwain. They informed that they have raised the herbs from the seeds purchased from the herb vendors. There is a group of traditional healers that are not in favour of using Khursani Ajwain. According to them, the presence of promising alternatives can fulfill the requirement of Khursani Ajwain as medicine. Before giving the details regarding traditional medicinal uses of Khursani Ajwain in Chhattisgarh, collected through the ethnobotanical surveys, I am describing its botany and reported medicinal uses, I have noted from reference literatures. Botanically it is a biennial plant with spindle shaped roots; stem upright, round, tough, branched, very leafy, wooly towards the top; Leaves alternate, sessile or stem clasping, soft and pliant somewhat egg-shaped, sinuated with sharp lobes, downy and viscid, exhaling a powerful and appressive odour like all the rest of the plant; Flowers axillary, subsolitary, nearly sessile, embosomed in the uppermost leaves, than which they are much shorter; Corolla dull dirty yellow strongly netted with purple veins and deep purple at the orifice, funnel shaped with a somewhat erect limb which is 5-lobed; Fruit an ovate, many seeded pyxis; seeds with rounded convex top. According to the reference literatures related to different systems of medicine in India, it is a powerful narcotic. The capsule and seeds of which, smoked like Tobacco are good remedy for toothache. The leaves are useful in treatment of painful and spasmodic affections, hysteria, rheumatism and goat.

According to the traditional healers of Chhattisgarh, all parts of Khursani Ajwain can be used both internally as well as externally in treatment of many common troubles, but its seeds are used more commonly. In treatment of intense pain due to Bavasir (Piles), the traditional healers of Chhattisgarh Plains use the seeds of Khursani Ajwain in combination with dry root powder of Doomar (*Ficus glomerata*). Both herb parts are mixed in equal proportion and with the help of water, an aqueous paste is prepared. This paste is applied externally on the affected part. It is considered as one of the promising treatments. The traditional healers informed that both herbs

play the important roles in making the combination useful. Many healers are in favour of using freshly collection Doomar roots having enough watery contents to prepare the paste. They are not in favour of using normal water for paste preparation. The traditional healers of Narharpur region use the seed leachate in treatment of patients having poor sexual desire in unique way. The seeds are dipped in water overnight and next morning the patients are advised to wash the genitals with this leachate. According to the healers, in few days the patients get rid from this trouble. The use is stopped after cure. They are not in favour of using it upto long time. The traditional healers of Pendra region are also aware of this use. The healers of Narharpur region also use its leaves in treatment of Hydrocele. The leaf juice is extracted and in combination with wheat flour (Gahun Ata) applied on testicles externally. It is considered as very useful painkiller. In reference literatures, the use of its leaves in same way in treatment of breast inflammations is mentioned but the traditional healers of this region were not aware of this use. Later they tried and found it really effective. Now they also use it in combination with other local herbs. In treatment of severe toothache, the traditional healers of Nagri-Sihawa region use the seeds of Khursani Ajwain. The seeds are boiled in water and decoction is prepared. In this decoction Sirka (Vinegar) and Gulab Jal (Rose water) are added. The patients are advised to gargle with this decoction. As other promising alternatives are available this decoction is used less commonly but from documentation point of view, it is an important information. The traditional healers of Southern Chhattisgarh prepare different types of oil using Khursani Ajwain seeds. The traditional healers of Bastar region, boil the Khursani Ajwain seeds and Koha (*Terminalia arjuna*) bark in base oil. When all watery contents evaporate the boiling is stopped and oil is kept for future use. As base oil Sarson (Mustard seed)oil is used. The specially prepared oil is considered as a boon for the patients having mental tension. The oil is massaged gently on head. It is also considered promising in treatment of Insomnia. In general, the traditional healers prepare this oil in bulk at their homes without disclosing its ingredients to anyone and give it in small amount to the patients. The healers aware of the importance of on-going documentation work, disclosed the secret formulation. The traditional healers of Bhopalpatnam region prepare the oil by using another method. The seeds are crushed into powder and with the help of hot water, small globules of seed are prepared. These globules are kept in sunlight. Few hours later, the oil is collected through the pressure on seeds. The traditional healers of this region recommend the use of seed oil for hair care. The patients having the problem of lice are instructed by the healers to use this oil as massage on hairs. Its massage on soles helps in getting sound sleep. The traditional healers of Bagbahera region prepare a special herbal combination by mixing Khursani Ajwain and Dhatra (*Datura sp.*) seed powder and Sonth (Dried Ginger) in equal proportions. The combination is given a shape of small globules. These globules are given internally to the patients having respiratory system related troubles. The traditional healers use this combination judiciously and with special care. They are aware that overdose many result in harmful effects. In general, the healers suggest the patients to take few globules before the start of winter season as preventive measure to respiratory troubles common in this season. I have used it under the supervision of traditional healers successfully.

On the basis of claims of the healers and herb collectors, I am trying my best to search this herb in wild. The observation of the habitat the herb is preferring will help me a lot to create same situation in crop fields so that this herb can be cultivated successfully in Chhattisgarh. During the surveys, many healers motivated me to think on commercial cultivation of this herb as there is a sufficient local demand. The objective of search of Khursani Ajwain in wild, is also to evaluate the potential of this herb as Homoeopathic drug. At present, we are purchasing the Homoeopathic drug Hyoscyamus from the foreign companies. The search of Hyoscyamus and systematic research will help the practitioners to get the drug form native herb. I am also eager to evaluate the Allopathic potential of this herb for commercial cultivation of medicinal and aromatic crops in Chhattisgarh.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 230. Hartha Ke Sag.

Hartha is a local name of *Securinega leucopyrus*. It is a thorny, large shrub or small tree distributed in many parts of Chhattisgarh. The natives and traditional healers are not much aware of its medicinal properties and uses. Hartha Ke Sag is prepared by using its leaves. This preparation is not much popular among the common natives. The traditional healers of Southern Chhattisgarh recommend this Sag (Curry) to patients having the problem of Lakwa (Paralysis). It is given as supplement to main treatment. Its popularity is decreasing among the healers as many other promising alternatives in form of delicious curries are available to manage the trouble.

Material Required ; Hartha leaves, Lason (Garlic), Turmeric (Hardi), Tel (Oil), Namak (Salt) and Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Hartha leaves and all other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Hartha, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 223. Balukasag Ke Sag.

Balukasag is a local name of *Gisekia pharmacioides*. It is less known medicinal herbs of Chhattisgarh. The natives particularly the poor natives of Chhattisgarh use this herb as curry (Sag). The natives living in regions near to the Orissa state, use this herb as curry very commonly. The traditional healers of Bagbahera region are aware of its medicinal uses and properties. According to them, this preparation is a boon for the patients having nervous system related troubles. They recommend its use as supplement treatment to main treatment of such troubles. As other promising alternatives are available, its popularity as curry having medicinal values is decreasing. This observation motivated me to document the traditional knowledge of this curry, without any delay.

Material Required: Balukasag leaves, Lason (Garlic), Tel (Oil), Namak (Salt), Hardi (Turmeric), Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. Balukasag leaves and other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Balukasag, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 222. Tirmal Ke Murabba.

Tirmal is a local name of *Ficus auriculata* (Syn. *F. roxburghii*; *F. macrophylla*). It is a well known tree of medicinal and religious (in some parts) importance in Chhattisgarh. Its bark is used to make coarse rope. For the first time I observed the use of Tirmal ke Murabba in Ambikapur region of Northern Chhattisgarh. This preparation is very popular among the traditional healers. The common natives prefer to consume it raw. The traditional healers are aware of its health benefits. According to them, this sweet preparation is used to stop all types of internal bleeding. It is considered as promising tonic. Many healers suggest the patients having gynaecological troubles to consume this Murabba round the year.

Material Required: Tirmal fruits and Sugar.

Method of Preparation: Tirmal fruits are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). Boiled fruits are cut into small pieces (or many times the whole fruits are used) and added in hot Chashni. The combination is kept under sun light upto fifteen days. Once prepared in bulk it is used round the year as per the recommendations of traditional healers.

For the botany, traditional and reported medicinal uses of Tirmal, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 221. Pardeshi Dhanbaher Ke Sag.

Pardeshi Dhanbaher is a local name of *Cassia siamea*. It is an ornamental tree with yellow flowers. It is grown as avenue tree. Its wood pulp is reported to be suitable for writing and printing paper. The natives and traditional healers of Chhattisgarh are aware of its presence and also about its medicinal properties and uses. Its Sag (Curry) is prepared by using its flowers and flower buds. The natives consume it for its specific taste but the traditional healers are aware of its health benefits. They consider it as promising body tonic. According to them its internal use removes extra heat from body and helps in maintaining the heat balance. Many healers also recommend it to the patient having chronic constipation.

Material Required: Flowers and flower buds, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric) and Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. Flowers and flower buds are added in pan with all other ingredients and roasted well till the loss of watery content. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Pardeshi Dhanbaher please read my previous articles.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India.: Interactions with the Female Traditional Healers of Bhopalpatnam region.

During the ethnobotanical surveys in Bhopalpatnam region, I got opportunities to meet and interact Thirty Two Female Traditional Healers. Through the interactions I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers informed about many promising medicinal uses and properties of Gokhru (*Tribulus terrestris*). Besides it use as main ingredient in popular herbal combinations used to get good sexual health, the Female Traditional Healers use it in treatment of Oedema. The whole herb of Gokhru is used for this purpose. The whole herb is boiled in water and decoction is prepared. This decoction is given internally to the patients. The use is continued till complete cure. In normal cases they use the fruits to prepare the decoction. The decoction of fruit in combination with Sonth (Dried Ginger) is also used in treatment of rheumatism. The healers suggest the patients to continue its use even after the treatment in order to prevent further attack. The healers complained that the availability of this herb is decreasing very rapidly in natural forest. They blame the over-exploitation of this herb from the forests by the herb

traders for this decreasing population. Many healers are now dependent on herb vendors for this herb. The Female Traditional Healers of this region are also dependent on herb vendors for the wood powder of Chandan (*Santalum album*). They use the wood powder in treatment of gynaecological troubles. Although they add it in many herbal combinations but not showed interest to disclose these herbal combinations. On request they informed about one promising combination. In treatment of Safed Pani (*Leucorrhoea*), the Female traditional healers use the combination of Chandan wood powder, cow ghee, sugar and honey (Shahad) internally. It is used as supplement treatment to main treatment. Chirai Jam (*Syzygium cumini*) is a well known tree of medicinal and religious importance in Chhattisgarh. The healers use its leaf juice in combination with Ama (*Mangifera indica*) leaf juice internally in treatment of vomiting. In complicated case, they boil the combination and take it internally. It is considered as one of the promising treatments. In treatment of stomatitis, the healers use the root of Punarnava (*Boerhaavia diffusa*). The roots are boiled in water and patients are advised to gargle with this decoction. Punarnava grows as waste land weed in this part of Chhattisgarh. The healers are aware of many less known medicinal uses of Aegandh (*Withania somnifera*). They use its roots in combination with cow urine internally to flush out the intestinal worms. This was new information for me. The healers are aware of use of its leaves also. They prepare an aqueous paste by mixing the leaves in oil and apply it externally of immature boils to suppress it.

I have noted during the survey that the Female Traditional Healers of this region have deep faith in traditional knowledge and they are proud to perform the duty of healers. This is good sign.

Thank you very much for reading the article.

**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India : 128.
Rudraksh Ke Shurbut.**

Rudraksh is a local name of *Elaeocarpus sphaericus*. It is common tree in different parts of India. Its hard tubercled nuts are made into rosaries and bracelets. Its fruits are edible and possess valuable medicinal properties. Rudraksh ke Shurbut is prepared by using its fruit pulp. From the herb vendors of Gandai-Salewara region I got information regarding this Shurbut for the first time. This preparation is not popular among the natives and traditional healers of Chhattisgarh. The herb vendors informed that this Shurbut is a boon for the patients having nervous system related troubles. Later I informed many traditional healers about this Shurbut and presented samples. They tried and found it promising in many ways. According to them, this Shurbut shows promising effects in treatment of migraine. It can also be used in treatment of patients having the problem of Hysteria. To prepare the Shurbut, the juice is extracted from fruit pulp. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and hot Chashni are mixed to prepare the Shurbut. Once prepared in bulk, this Shurbut is used round the year by diluting it with water.

For the botany, traditional and reported medicinal uses of Rudraksh please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 220. Maked Shingi Ke Sag.

Maked Shingi is a local name of *Caralluma fimbriata*. It is a common herb in Southern parts of Chhattisgarh. The traditional healers of Southern Chhattisgarh prepare the Sag (Curry) using its whole herb and recommend it to the patients having the problem of intestinal worms. The

traditional healers informed that its use regularly upto one week in this form cures the trouble by flushing out the worms. Many healers consider it as promising blood purifier and this the reason they recommend its use to the patients having skin related troubles. The common natives are not much aware of these beneficial effects. Many poor natives consume this herb in form of curry.

Material Required: Maked Shingi Whole herb, Garlic (Lason), Tel (Oil), Hardi (Turmeric), Namak (Salt), Masale (Spices).

Method of Preparation: The oil is taken in pan and pan is kept on fire. Maked Shingi whole herb is cut into small pieces and with all ingredients added in pan. The combination is roasted well till the evaporation of watery contents. The curry is served hot with Bhatt (Cooked Rice).

For the botany, traditional and reported medicinal uses of Maked Shingi please read my previous articles.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. ; Interactions with the Female Traditional Healers of Dondi-Lohara region.

During the ethnobotanical surveys conducted in Dondi-Lohara region, I got opportunities to meet and interact with Ten Female Traditional Healers. Through the interactions I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use the herb Kulthi (*Dolichos biflorus*) in treatment of kidney related troubles, particularly in treatment of Pathri (Renal calculi). Its seeds are used as pulse. The Female Traditional Healers of Dondi-Lohara region are aware of this use. They informed about new aspects of this use. They informed that the addition of Shaljam (Turnip) seeds in Kulthi seeds during cooking makes the pulse more promising. Shaljam is not available easily in Chhattisgarh. The healers are dependent on herb vendors for the seeds. The healers disclosed that they have gained this knowledge from herb vendors. The Female Traditional Healers further claimed that the roots of Kulthi can also be used internally to flush out the Pathri (Stones). The juice is extracted by crushing the freshly collected roots. The roots collected before flowering are considered best. In many parts of Chhattisgarh Kulthi is under cultivation as pulse crop and as input agrochemicals are used in crop fields. The healers avoid the use of roots collected from such crop fields. In case of complications, many of them use the decoction of roots in place of raw juice. These Female Traditional Healers are known for their specialization in treatment of Renal Calculi. They are also aware of many other medicinal uses of Kulthi seeds. In treatment of Bavasir (Piles), they crush the seeds into powder and in form of aqueous paste apply it externally on affected part. According to them, in short term, this application provides relief from intense pain and stops the bleeding, but in long term use, it roots out the problem. They have deep faith in this traditional use. In treatment of Chhapaki (Urticaria), the healers suggest the patients to take the Kulthi seed powder internally with Gud (Jaggery). It is used as supplement to main treatment. In treatment of Peptic ulcer the healers suggest the patients to take the powdered seeds internally in combination with fresh curd (Dahi). This combination is given empty stomach preferably at morning hours. The healers informed that it stops vomiting and vomiting sensation also. In order to reduce the high body temperature during the fever, the healers suggest the patients to apply to aqueous paste of Kulthi seeds in forehead and if possible, all over the body. The healers informed that this application helps in reducing the temperature in promising way. The Female Traditional healers take special precaution during its use and the patients having poor vitality are not given Kulthi in any form. While using Kulthi, the use of Shilajit is also restricted.

The in depth traditional medicinal knowledge about Kulthi, the Female Traditional Healers of this region are having, is a matter of appreciation. Although these healers are less in number but they are practicing the traditional knowledge with faith. This is good sign.

Thank you very much for reading the article.

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**Traditional Medicinal knowledge about different Shurbuts in Chhattisgarh, India. 126.
Gajab Shurbut.**

Gajab (Wonderful) Shurbut is the name gives to this preparation by the traditional healers of Gandai-Salewara region of Chhattisgarh. This Shurbut is prepared by using many herbs and herb parts. These are Untkatara (*Echinops echinatum*) roots and leaves, Kharbooza (Musk melon seed), Chandan (*Santalum album*) wood powder and roots of Kasni (*Cichorium intybus*). The traditional healers of this region consider this Shurbut as a boon for the patients having the problem of Sujak (Gonorrhoea). It is also recommended to the patients having troubles related to urinary system. The common natives are not much aware of this preparation. In general, the traditional healers prepare it in bulk at their homes and give it to the patients as medicine. To prepare the Shurbut, all ingredients are mixed and dipped in bowl filled with water. The bowl is kept as such whole night. Next morning, the solution is boiled and decoction is prepared. Separately, Sugar is boiled in water to prepare the Chashni (Syrup). The decoction is added in Chashni to make the Shurbut. Diluted with water this Shurbut is taken internally as per the recommendations of the healers.

For the botany, traditional and reported medicinal uses of all herbs used as ingredients, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 213. Adrak Ke Murabba.

Adrak is a local name of Ginger (*Zingiber officinale*). According to the reference literatures, Adrak is a native to S.E. Asia but now cultivated in many parts of Chhattisgarh for rhizomes which are used as spice and condiment and are also used in medicine as carminative and digestive stimulant. The essential oil, obtained from rhizomes, is used for flavouring purposes. Adrak is well known herb in Chhattisgarh. The dense forests of Chhattisgarh are rich in natural population of this herb. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. Adrak Ke Murabba is prepared by using its rhizome. This preparation is popular among the traditional healers. The healers are aware of its health benefits. It is considered as a boon for the patients having respiratory troubles. In general, the healers suggest the common natives to consume this preparation upto one month in any part of the year, in order to get protection from these troubles round the year.

Material Required: Adrak rhizomes and Sugar.

Method of Preparation: Adrak rhizomes are cut into small pieces and these pieces are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). Adrak pieces are added in hot Chashni. The combination is kept under sunlight upto fifteen days. After this duration, the Murabba is considered ready for use. Once prepared bulk it is consumed round the year. It is also prepared by using other similar methods.

For the botany, traditional and reported medicinal uses of Adrak, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 188. Van Duddhi (*Euphorbia helioscopia*, family Euphorbiaceae).

Van Duddhi grows as wasteland and crop weed in many parts of Chhattisgarh. Although in reference literatures related to weed science, it is described as problematic weed but for the senior natives and traditional healers of Chhattisgarh, it is a valuable medicinal herb. They are aware of its few but important traditional medicinal uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected the information on these uses. The traditional healers of Chhattisgarh Plains use the whole herb in powder form in treatment of respiratory troubles. Externally, during Asthmatic attack, the dry powder is burnt and the patients are advised to inhale the fumes coming from the burning powder. Internally, this powder is added in popular herbal combinations used in treatment of such troubles. Its internal use is more popular. To flush out the toxic material from the body, the traditional healers of Gandai-Salewara region use the whole herb powder of Van Duddhi, in combination with other herbs. According to them Van Duddhi plays an important role in this combination. The traditional healers of Pendra region informed me that its latex can be used like other herbs of *Euphorbia* sp; in order to treat the warts but it is used less commonly. The traditional healers of Narharpur region use the whole herb of Van Duddhi in treatment of gynaecological troubles particularly in case of Leucorrhoea. Many of the above mentioned traditional medicinal uses have yet not been reported. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding this herb. With the help of innovative herb growers of Chhattisgarh, we are conducting laboratory as well as field trials to evaluate its Allelopathic potential. I will write about the results in coming articles.

Officially the name of Van Duddhi is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors confirmed this information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional Healers of Mahasamund region.**

During the ethnobotanical surveys conducted in different parts of Mahasamund region. I got opportunities to meet and interact with only ten Female Traditional Healers. Through the interaction I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Mahasamund region informed me about many important medicinal uses and properties of Sindoori (*Mallotus philippensis*) plant parts. They use its fruits as medicine very commonly. They use its powdered fruits in combination with Shahad (Honey) in treatment of chronic constipation. The combination is given at night. The use is continued till complete cure. According to the healers, within few days the patients get rid from this trouble effectively. In treatment of itching in anus, a common problem among small children, the Female Traditional Healers prepare and use a special herbal oil by boiling the freshly collected fruits in base oil. This oil is applied on affected parts. The strong oil is also used many times in treatment of Bavasir (Piles) but as other promising alternatives are available, this oil is used less commonly. I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use the dry fruit powder of Sindoori in order to flush out the intestinal worms. The Female Traditional Healers of Mahasamund region use the powder with Cow ghee and Gud (Jaggery). The healers also add Baibirang (*Emblia ribes*) with fruit powder in order to make it more promising. In treatment of small boils, common in hot summer season, particularly among the small children, the healers use the roots of Indrayan (*Citrullus colocynthis*). The roots are dried in shade and after drying converted into powder. In this powder cow urine is added and an aqueous paste is prepared. This paste is applied on boils as promising treatment. In treatment of itching in as home remedy, the traditional healers suggest the use of Kali Mirch (*Piper nigrum*). The fruits powder of Kali Mirch in combination of Amli (Tamarind) fruit juice is applied into the eyes as treatment. In majority of the cases, the patients get relief. In case of complications, the healers start systematic treatment.

Although the above mentioned traditional medicinal uses are less in number but this is very important information. The great observation is that these healers are practicing the traditional knowledge sincerely. During the interaction, the Female Traditional healers informed about many medicinal mushroom species and invited me to visit the forest with them in rainy season. You will find the details regarding this visit in coming articles.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional Healers of Charama region.**

During the ethnobotanical surveys, I got opportunity to meet and interact with Fifty five Female Traditional Healers of Charama region. Through the interaction, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Charama region are aware of many promising medicinal uses and properties of Sonth (Dried Ginger). They use it both internally as well as externally in treatment of many common diseases. In treatment of scorpion bite, they use the aqueous extract of Sonth. If the bite is in right side of the body, the few drops of aqueous extract is applied into the left nostril and vice-versa. According to the healers, this application helps in reducing the pain to the great extent. In treatment of severe headache particularly due to Adhasisi (Migraine) the aqueous extract of Sonth is applied into the eyes. I have mentioned in previous articles that in many parts of Chhattisgarh the traditional healers use Sonth powder in form of aqueous paste in treatment of pain in sinus. The Female Traditional Healers of Charama region are also aware of this use. In treatment of internal swelling, jaundice and also Bavasir (Piles), the healers suggest the patients to take Sonth internally in combination with Gud (Jaggery). According to the healers, in long term use it gives promising effects. The healers also informed me about a herbal tea prepared and used for treatment of fever. In this herbal tea Sonth, Kali Mirch (*Piper nigrum*) and Tulsi leaves (*Ocimum sanctum*) are boiled in water and tea is prepared. This tea is taken many times a day. It is also considered useful in treatment of common cough and cold. In general, the traditional healers prepare Sonth at their homes for its use as medicine. Fudhar (*Calotropis gigantea*) grows as wasteland weed in this part of Chhattisgarh. In treatment of Mirgi (Epilepsy), they use its leaves in unique way. The oil is smeared on old leaves of Fudhar and roasted. The lukewarm leaves are tied in soles as treatment. According to the healers it acts as both preventive and curative to Mirgi. As Fudhar is commonly available herb, the healers use it very frequently without any problem. The healers also prepare a special oil by boiling Fudhar (*Calotropis gigantea*) leaves in base oil. As base oil Sarson (Mustard seed) oil is used. When all watery contents evaporate, the boiling is stopped and oil is kept for future use. This oil is used in treatment of common skin troubles externally. This special oil is also popular among other healers. Indrayan (*Citrullus colocynthis*) is well known herb in this part of Chhattisgarh. When I started discussion on Indrayan, the Female Traditional Healers informed about its many less known uses. In treatment of gout, they use a special herbal combination in which Indrayan root, Pippali (*Piper longum*) and Gud (Jaggery)

play the important roles. This combination is given upto long time. In treatment of mental tension, the healers suggest the patients to take the fruit pulp of Indrayan in combination with cow urine internally. Like the traditional healers of other parts of Chhattisgarh, the Female Traditional Healers of Charama region also use the roots of Indrayan internally in treatment of Jaundice.

I have observed during the survey that these Female Traditional Healers are glad with the job assigned by their ancestors to serve the society through herbs and they are eager to transfer this knowledge to coming generation. This is good sign.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 212. Bahera Ke Halwa.

Bahera is a local name of Terminalia bellirica. It is a well known tree of medicinal importance in Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different uses of Bahera plant parts. Bahera Ke Halwa is prepared by using its fruit rind. I have mentioned in previous articles that Bahera fruits and fruit rind are used in many ways alone or in combination with other herbs in treatment of troubles related to respiratory system. Bahera Ke Halwa is one of those ways. This preparation is not much popular among the traditional healers and common natives. To conserve the traditional knowledge about this traditional dish, I decided to include this dish in the series 'Herbal dishes of Chhattisgarh, India.'

Material Required: Bahera fruit rind, Gahun Ata Wheat flour, Cow ghee and sugar.

Method of Preparation: Wheat flour is roast well in pan with the help of Cow ghee. Separately, Bahera fruit rinds are also roasted in cow ghee. The roasted rinds are added in the roasted wheat flour. After further roasting, sugar is added. The Halwa is served as breakfast.

For the botany, traditional and reported medicinal uses of Baheda please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 211. Pippali ke Bhajia.

Pippali is a local name of *Piper longum*. It is cultivated in many parts of India for fruits which are used as spice and condiment. It is also a promising medicinal herb. The natives and traditional healers of Chhattisgarh, have in depth traditional medicinal knowledge about this herb. Pippali ke Bhajia is not a popular preparation among the common natives. Very few traditional healers are aware of this preparation. The traditional healers of Chhattisgarh specialised in treatment of different types of cancer, recommend this preparation to the patients having intense pain. According to them, this preparation as breakfast helps in reducing the pain to the great extent, besides giving new taste to the patients. I got opportunities to meet the patients taking advantages from this herbal dish. Their encouraging responses motivated me to popularize this dish among the common natives as pain killer and also to inform it to the world community.

Material Required: Pippali fruits, Besan (Gram flour), Lason (Garlic), Namak (Salt), Tel (Oil) and Masale (Spices).

Method of Preparation: Pippali fruits are crushed into fine powder. With the help of water and Gram flour, a thick paste is prepared. All ingredients including Pippali fruit powder are added in this paste. The paste is given a shape of small globules. Oil is taken in pan and small globules are fried well. The hot Bhajia are served with tea as break fast.

For the botany, traditional and reported medicinal uses of Pippali, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 187. Dudheli (*Euphorbia granulata*, Family : Euphorbiaceae)

Although the reference literatures on flora do not support its natural occurrence in Chhattisgarh as it is a Halophyte but this herb is present in Chhattisgarh and the traditional healers and herb collectors are aware its natural occurrence. In many parts of the state, the traditional healers use this herb as medicine. Its most unique use I have observed during the ethnobotanical surveys conducted in different parts of Chhattisgarh, is its use in treatment of Migraine (Adhasisi). The patients are advised by the traditional healers to stand bare foot on this herb during morning. It is considered as one of the promising uses to reduce the intense pain within very less time. The traditional healers of Southern Chhattisgarh recommend this use very commonly. The traditional healers of Chhattisgarh Plains suggest the patients having poor eye sight to use the herb in same way. After days work, I use to stand on this herb to feel great mental relaxation. Internally, the whole herb in powder form is added in popular herbal combinations by the traditional healers of Gandai-Salewara region, used in treatment of respiratory system related troubles. The traditional healers of Pendra region are aware of its laxative property but as other promising alternatives are available it is used less commonly. From documentation point of view it is the important information. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding its medicinal properties and uses.

Botanically, it is a small, prostrate, hispidly villose, greenish or purplish herb; Stem many and prostrate; Root with a root stock; Leaf obliquely obovate, oblong-obovate, distichous, on short, leafy branches; Fruit small, hirsute capsule; seed brown, 4 angular with thick mucous.

Officially, the name of Dudheli is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors have confirmed this information. Many herb vendors collect it from wild for the traditional healers.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female Traditional Healers of Kavardha region.

During the ethnobotanical surveys in Kavardha region, I got opportunities to meet and interactions Twenty Four Female Traditional Healers. Through the interactions, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers informed about the use of Baheda (*Terminalia bellirica*) in treatment of swellings. Its fruits pulp and bark are used externally in treatment of swellings. The healers informed that in normal cases they use the Baheda bark but in advanced stage Baheda fruit pulp is also added. Both plant parts are crushed into aqueous paste and applied externally on affected parts. Many times they boil the Fruit pulp and bark in water and softened plant parts are used in same way. This region is rich in natural population of Baheda trees. In treatment of liver related troubles the Female Traditional Healers prefer the use of Arusa (*Adhatoda vasica*) leaves and flowers. The juice of freshly collected leaves and flowers is given internally to the patients in combination with Shahad (Honey). The healers also consider the juice promising in treatment of hyperacidity. In treatment of Bavasir (Piles), the healers use Arusa leaves externally. After boiling the softened leaves are converted into paste and applied externally on painful parts. It is considered as one of the promising treatments. When we started discussion on Koha (*Terminalia arjuna*), besides its use in treatment of heart troubles, the Female Traditional Healers informed me about new uses. They consider the decoction of Koha bark very useful in treatment of Bavasir specially in case of bleeding piles. They suggest the patients

to sit in a tub filled with Koha decoction, twice a day in order to get relief in very less time. For all types of internal as well as external bleeding the healers use the Koha leaf juice in combination with Ama (*Mangifera indica*) and Chirai Jam (*Syzygium cumini*) leaf juice. All juices are mixed in equal proportion and given internally. The healers use this combination very commonly in treatment of gynaecological troubles. Sarphonk (*Tephrosia purpurea*) grows as wasteland weed in this part of Chhattisgarh. In treatment of digestive system related troubles, the Female Traditional Healers use a special herbal combination in which Sarphonk roots are added as main ingredient. The healers take special precaution during collection of Sarphonk roots. The herb growing in Lateritic soil (Murum) is avoided. The roots growing in north direction are preferred. The roots are collected early morning only on Thursday and Sunday, after performing traditional worship. The herbs at vegetative stage are considered best for the collection of roots. After collecting the roots, they dry it in shade. After drying, the roots are crushed into fine powder. In this fine powder equal amount of Harra (*Terminalia chebula*) fruit powder and salt are added. The combination is taken internally many times a day as treatment. The healers also suggest the patients having chronic constipation to take this combination at night with lukewarm water. The healers have deep faith in traditional practice adopted for collection of roots. They are following it strictly and sincerely. This is good sign.

The Female Traditional Healers informed me about medicinal properties of many medicinal insects that appear in rainy season and invited me to visit the region again in this particular season. I am planning to visit the Kavardha region very soon. You will find the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 210. Safed Pani Bar Sag.

Safed Pani is a local name of gynaecological trouble Leucorrhoea. The traditional healers of many parts of Chhattisgarh, particularly the healers of Chhattisgarh Plains specialized in treatment of gynaecological troubles suggest the patients to consume this Sag. This Sag (Curry) is prepared by using Peng (*Celastrus paniculata*) leaves and Bhengra (*Eclipta alba*) leaves. Peng is a herb that grows naturally in forest whereas Bhengra is a well known weed in rice fields. This preparation is not much popular among the common natives. In many parts of Chhattisgarh the natives prepare curry from Peng leaves but the combination of Peng and Bhengra is not popular. During the surveys, I got opportunities to interact with the patients using this curry as per recommendations of the traditional healers. Their encouraging response motivated me to popularize this preparation among the common natives.

Material Required: Peng and Bhengra leaves, Lason (Garlic), Cow ghee, Namak (Salt), Haldi (Turmeric), Masale (Spices).

Method of Preparation: Cow ghee is taken in pan and it is kept on fire. Peng and Bhengra leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Peng and Bhengra please read my previous articles.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional healers of Rajnandgaon region.**

During the ethnobotanical surveys, I got opportunity to identify and interact with Fifty one Female Traditional Healers of this region. Through the interaction, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Rajnandgaon region are aware of many medicinal uses and properties of Bhatkatiya (*Solanum xanthocarpum*). I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use whole plant of Bhatkatiya in treatment of respiratory system related troubles. The Female Traditional Healers of Rajnandgaon region use the whole herb juice of Bhatkatiya in combination with Hing (*Asafoetida*) and Shahad (Honey) as treatment. They informed that the addition of Hing, nullifies the harmful effects of Bhatkatiya juice. The Bhatkatiya herb having no or less number of flowers is considered best for the preparation of combination. During winter season, they suggest the patients having Asthma to take this combination in every four days as it acts as preventive to Asthma. They are aware about the use of curry prepared from Bhatkatiya herb as supplement treatment of Asthma. They consider the above mentioned combination more promising. Like other healers, they also prefer the use of white flowered Bhatkatiya as medicine but it is a very rare herb. They complained that its population has decreased many folds in past few years. They use the white flowers specially in treatment of whooping cough. The freshly collected fruits are mixed with Shahad (Honey) and given internally as sure cure. For its use in times of non-availability, they burn the shade dried flowers and collect the ash. This ash is used round the year in treatment of same trouble. The ash is also given with Shahad. In treatment of small boils, common in summer season, particularly among the small children, the Female Traditional Healers suggest the use of combination of whole herb juice of Bhatkatiya and Makoi (*Solanum nigrum*), mixed in equal proportion. The combination is applied on small boils. The use is continued till complete cure. The healers showed me the herb *Viola betonicifolia* and informed that they use the whole herb in treatment of liver related troubles. The whole herb is boiled in water and decoction is prepared. This decoction is given twice a day, internally to the patients. It is also considered as promising blood purifier. The healers further informed me that in many cases this decoction cause side effects. In such cases to nullify the harmful effects they add more herbs in it. In treatment of Tonsillitis, the healers suggest the patients to gargle with the same decoction. In treatment of fever, the Female Traditional Healers suggest the patients to take the decoction of Pippali (*Piper longum*) in combination with Gud (Jaggery).

During the survey and interaction, I have noted that the Female Traditional Healers are aware many promising uses but they do not want to disclose this valuable knowledge to every one. I am trying to convince them about the importance of on-going documentation work. I feel that more clear explanation is required. I will try the same in my coming visits.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional Healers of Sirpur region.**

During the ethnobotanical surveys, I have identified and interacted with Thirty five Female Traditional healers in this region. Through the interactions with them, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of this region informed me about many unique uses of Peng (*Celastrus paniculata*). They suggest the patients having the problems related to respiratory system of crush the seeds of Peng and inhale the smell coming from the powdered seeds. According to the healers its regular use many times a day in this way clears the respiratory tracts and roots out the trouble. I have tried it successfully many times. They further informed that it is specially useful for the patients having Asthma. It can be used as preventive and curative to Asthma. Peng is one of the well known non-wood forest produces of Chhattisgarh. Its seeds are collected from wild and supplied to the buyers at national and international markets. By crushing its seeds the oil is extracted and used medicinally. The Female Traditional Healers of Sirpur region recommend this oil externally in treatment of sciatica and joint pains. They also prepare the oil by other method. In this method the seeds are boiled in base oil and special oil is prepared. As base oil Til (Sesame seed) oil is used. Many healers consider the oil prepared from this method more promising as compared to the oil extracted by crushing the seeds. They use the oil prepared from second method as memory enhancer. In combination with cow ghee this oil is given to the school going children. According to the healers, the long term use gives more promising results. The Female Traditional Healers showed worry regarding over exploitation and collection of Peng herb from natural forests. According to them, the collection has increased many folds in past few years. The heavy collection is posing threat on

its natural population. They requested me to inform the state authorities about this alarming decrease in wild population. Munga (*Moringa oleifera*) is well known tree in this region. When we started discussion on this tree, the Female Traditional Healers informed me about its traditional uses as medicine. They add Munga bark as main ingredient in popular herbal combination used in treatment of spleen related troubles. In this combination Pippali (*Piper longum*), Chita (*Plumbago zeylanica*) and rock salt are added as other ingredients. They claimed that this combination cures all the troubles related to spleen. In complicated case, they prepare a decoction by boiling Munga bark in water and add all other ingredients in it. This decoction is given internally as treatment. In general, they prepare the combination and decoction at their homes without disclosing its ingredients and give it to the patients coming to them for the treatment. In case of stomach pain, they suggest the patients to extract the root juice of Munga and in combination with Kali Mirch (*Piper nigrum*) and Shahad (Honey) take it internally. The Female Traditional Healers claimed that with the help of Munga fruits they can cure the troubles of brain tumor, but they refused to tell the detailed method of its use. I got opportunities to meet the patients getting relief from Munga fruit based combination, during the survey. The Female Traditional Healers informed that many patients from different metro cities of India visit to them, as last hope and they try their best to cure their troubles.

I am feeling fortunate to interact with the well known Female Traditional Healers of Sirpur region having expertise in treatment of brain tumor and to get opportunity to interact with them.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 209. Bhengra Ke Sag.

Bhengra is a local name of *Eclipta alba*. It grows as common weed in rice fields of Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. Bhengra Ke Sag is prepared by using its leaves. This Sag (Curry) is not much popular among the common natives. The traditional healers of Chhattisgarh use it as medicine for specific purpose. This preparation is recommended to the patients having the

problem of Safed Dag (Leucoderma). In general, the traditional healers suggest the patients to use Bhengra as curry during rainy season and Bathua (*Chenopodium album*) during winter season. According to them, this use acts as promising supplement treatment to main treatment.

Material Required: Bhengra leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Bhengra leaves and all other ingredients are added in pan and roasted well till the complete loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Bhengra please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 208. Danda Thura Ke Sag.

Danda Thura is a local name of *Euphorbia caducifolia*. It is well known herb in Chhattisgarh. It is planted as live fence in areas where the wild animals enters the crop fields and damage the crops, Danda Thura ke Sag is prepared by using its leaves. This Sag (Curry) is popular among the natives of Bagbahera and Saraipali region. They consume it for its specific taste. They are now aware of its health benefits. The traditional healers of Chhattisgarh consider this preparation as a boon for the patients having troubles related to respiratory system. It is also considered beneficial in treatment of Chronic constipation.

Material Required: Danda Thura leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Danda Thura leaves and all other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Danda Thura please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 186. Danda Thura (*Euphorbia caducifolia*, family Euphorbiaceae).

Danda Thura is a well known herb in Chhattisgarh particularly in areas near to the neighbouring state Orissa. The farmers plant it as live fence around the crop fields in order to restrict the entry of wild animals. It also grows as wasteland herb. Although this herb is common in the state but it is a matter of surprise that the natives and traditional healers are not much aware of its medicinal properties and uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of Danda Thura. The traditional healers of Chhattisgarh Plains use its fresh latex in treatment of warts. In combination with Hardi (Turmeric), it is applied externally on warts in order to shatter it without any pain. The traditional healers of Narharpur region suggest the patients having the problem of Insomnia to massage the latex gently on soles before going to bed in order to get sound sleep. The traditional healers of Gandai-Salewara region informed that the latex can be used in combination with other herbs in treatment of respiratory troubles but as other promising

alternatives are available it is used less commonly. In many parts of Chhattisgarh, the natives use the latex in treatment of cracks in soles. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding its medicinal uses and properties. Botanically, it is a pale green, dense, fleshy, dendroid shrub with Cylindrical branch; Leaf very variable in shape, size and form, ovate or ovate oblong; Fruit sharply 3-lobed capsule.

Officially, the name of Danda Thura is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors confirmed this information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female Traditional Healers of Nagri-Sihawa region.

During the ethnobotanical surveys I have identified and interacted with Twenty Four Female Traditional Healers. Through the interactions, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Nagri-Sihawa region informed me about specific herbal combination, they are using in treatment of Safed Dag (Leucoderma). At initial stages, they mix the Bemchi (*Psoralea corylifolia*) seeds and Til (Sesame) in 1:2 proportion and suggest the patients to take the combination upto one year continuously. In general, it is given once in day. According to the healers in many cases this simple treatment cures the trouble effectively in

very less time. In case of complications, they prepare another herbal combination. In this combination Bemchi, Aonla fruit powder and Kattha (*Acacia catechu*) are mixed and given internally in a same way. These Female Traditional Healers are well known in the region for their specialization in treatment of Leucoderma. They informed that Bemchi plays an important role in these combinations. Bemchi grows as winter season weed in many parts of Chhattisgarh. The Female Traditional Healers consider the Bemchi herbs growing in crop fields more promising as compared to the herbs growing in wasteland. The herbs growing in black cotton soil is also preferred by them. Although they are unable to give the scientific explanation but as traditional practice, they are adopting it sincerely. I personally feel that there is a strong need to search the scientific explanation for the young generation. Like Bemchi, Bhengra (*Eclipta alba*) is also well known weed in this part of Chhattisgarh. The Female Traditional Healers are aware of its many uses. In treatment of troubles related to respiratory system, they use the whole herb juice of Bhengra. The juice is extracted and boiled in base oil. This specially prepared oil is given internally to the patients many times a day. The healers are not in favour of its long term use. After cure, the patients are advised to stop the use. The Bhengra herb collected before the flowering is considered best for the extraction of juice. The healers are also aware of presence of blue flowered Bhengra herb in the region. Although it is rare herb but they are aware of its presence in specific spots and they never miss to utilize this herb sustainably. They further informed that the freshly extracted juice of Bhengra can be used externally in treatment of Leucoderma but it is considered less promising as compared to Bemchi.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling proud to document this important knowledge.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional Healers of Narharpur region.**

During the ethnobotanical surveys, I have identified and interacted with Thirty Five Female Traditional Healers in this region. Through the interactions I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of this region informed me about unique traditional medicinal properties and uses of Bach (*Acorus calamus*). They use this medicinal as well as aromatic herb both internally as well as externally in treatment of many common diseases. Although rat bite is not a common trouble here but the healers informed that many times this simple looking problem results in complications. In such cases, the Female Traditional Healers use Bach rhizome. The shade dried rhizome are crushed into fine powder and given internally with Rice water (*Pasia*). The combination is given once in a day. Its use is continued till complete cure. According to them, within a week the patients get rid from this trouble effectively. When I asked them whether the Rice water of any specific rice variety or medicinal rice variety is required? They replied that there is no such specification as Bach rhizome plays an important role in this combination. I have mentioned in previous articles that the oil of Bach, known as Calamus oil, is in trade. The Female Traditional Healers prepare a special oil from Bach rhizome by another way. They boil the rhizomes in base oil and when all watery contents evaporate, the boiling is stopped and special oil is stored for future use. As base oil Til (*Sesame seed*) oil is used. This specially prepared oil is considered as a boon for the patients having the problem of *Bavasir* (*Piles*). This oil is applied on affected parts many times a day. This application not only stops the bleeding but also reduces the intense pain. In general, they prepare this oil in bulk at their homes and give it to the patients without disclosing its contents. During the survey, I got opportunities to interact the patients using this oil. Many of them were much impressed and asked me about the secret contents. The healers use the powdered rhizome in combination with de-oiled cakes of Mustard (*Sarson*) in treatment of *Hernia*. The combination is applied externally. According to them, its long term use gives promising results. The Female Traditional Healers of *Narharpur* region also use Bach rhizome in treatment of Heart related troubles. They collect the *Neem* leaves and boil it in water. In this decoction powdered rhizome of Bach is added and the patients having heart troubles are advised to take it internally once in a day. The healers informed that it acts in promising way to stop the pain. Its long term use is recommended. Like the traditional healers of other parts of *Chhattisgarh*, the Female Traditional Healers of this region are also aware of Insect repellent properties of Bach herb. They collect the Bach herb from the marshy areas of this region. During the visits to this region, I have observed the wild population of Bach (*Acorus calamus*). Another Bach species i.e. *Acorus gramineus* is not present in this region. In many parts of *Chhattisgarh* particularly in *Pendra* region, the traditional healers consider *A. gramineus* more promising in terms of medicinal properties as compared to the *A. calamus*. When I presented the sampled of *A. gramineus* to the Female Traditional Healers of *Narharpur* region to evaluate its efficacy, they assured me to

inform about the results after trials. Later, they informed that *A. calamus* is far better than the *A. gramineus*.

For the collections of herbs, the Female traditional healers of this region visit to natural forests on specific day and time. They are not dependent on herb vendors for local herbs. According to them, the herb vendors are for the herbs not present in surroundings. The Female Traditional Healers are in favour of using more and more local herbs. This is good sign.

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Herbal dishes of Chhattisgarh, India. 207. Arka Pushpi ke Sag.

Arka Pushpi is a local name of *Holostemma annularis*. It is a twinning herb common in many parts of Chhattisgarh. Arka Pushpi ke Sag is prepared by using its leaves. The natives are not aware of this Sag (Curry). This preparation is popular among the traditional healers. For the first time, I got information regarding this preparation from the traditional healers of Gandai-Salewara region. This Sag is considered as a boon for the patients having the problem of Diabetes. In general, the traditional healers recommend the internal consumption of this Sag along with main treatment. They have deep faith in the effectiveness of this herb. As Diabetes is a problem common in almost all parts of the world, I am confident that this important traditional medicinal knowledge can protect many lives. Through the popular articles in regional languages, I am trying my best to popularize this Sag among the common natives of Chhattisgarh.

Material Required: Arka Pushpi leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Hardi (Turmeric) and Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Arka Pushpi leaves and all other ingredients are added in pan and roasted well till the loss of watery contents. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Arka Pushpi, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 206. Van Gobhi Patta ke Sag.

Van Gobhi is well known medicinal herb in Chhattisgarh. I have written a lot on various aspects of Van Gobhi in my previous articles. The traditional healers of Chhattisgarh specialized in treatment of Piles (Bavasir) consider the Van Gobhi Patta Ke Sag as a boon for the patients having this troubles. The Sag (Curry) is prepared by using its leaves. The common natives are not much aware of health benefits of this preparation. This curry is also not much popular among them. With the internal use of Van Gobi in form of Sag, the healers suggest the patients to apply the leaf juice externally on piles. According to them both internal as well as external uses, at a time cures the trouble effectively in very less time.

Material Required: Van Gobhi leaves, Lason (Garlic), Namak (Salt), Hardi (Turmeric), Tel (Oil), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Van Gobhi leaves and all other ingredients are added in pan and roasted well till the evaporation of watery contents. The curry is served hot with Bhat (Cooked Rice).

When the curry is prepared for medicinal use, the spices are added in less quantities.

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Herbal dishes of Chhattisgarh, India. 205. Nirgundi Patta Ke Sag.

Nirgundi is a local name of *Vitex negundo*. It is a well known medicinal herb in Chhattisgarh. The natives and traditional healers are aware of its many medicinal uses and properties. The dense forests of Chhattisgarh are rich in its natural population. Nirgundi Patta Ke Sag is a curry prepared by using its leaves. This preparation is not popular among the common natives. The traditional healers of Chhattisgarh recommend this preparation to the patients having gynaecological troubles. The Female Traditional Healers of Kanker region recommend this preparation as supplement treatment to main treatment of Puerperal Septicemia. This promising use has established this preparation as potential preparation. But its specific use and poor awareness about this preparation among the natives, are making it as a thing of past. This observation motivated me to document the traditional knowledge about this preparation without any delay. I personally feel that there is a strong need to popularize this curry among the natives by explaining its health benefits.

Material Required: Nirgundi leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), Hardi (Turmeric) etc.

Method of Preparation: Oil is taken in pan and pan is kept on fire. Nirgundi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Nirgundi, please ready my previous articles.

Medicinal herbs of Chhattisgarh having less known traditional uses. 185. Shir Thura (*Euphorbia tirucalli*, family Euphorbiaceae).

According to the reference literatures, Shir Thura is succulent spineless tree, native to Africa. This herb is present in wild in Chhattisgarh. The traditional healers and natives are aware of its presence in wild. The farmers of many parts of Chhattisgarh plant this herb around the crop fields for many purposes. One of the main purposes is to the insect repellent properties of this herb. Many organic growers use this herb as natural pest management tool to repel away the insects from crop fields. Although this herb grows as common herb but the traditional healers are not much aware of its medicinal properties and uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this herb. The traditional healers of Chhattisgarh Plains use the root of Shir Thura in treatment of Migraine (Adhasisi). In order to reduce the intense pain, the aqueous paste of crushed root is applied on affected parts. It is considered as one of the promising treatments. The traditional healers of Gandai-Salewara region use the latex of this herb in combination with other herbs internally in treatment of stomach pain. It is also considered useful in treatment of chronic constipation. During its use the healers avoid its accidental entry into the eyes. In such cases, they apply few drops of Andi (*Ricinus communis*) seed oil immediately. In combination with Haldi (Turmeric) the traditional healers of Bagbahera region use the latex of this herb, externally on warts in order to suppress it. Its regular use forces the warts to shatter after complete drying. In reference literatures related to different systems of medicine, this herb holds a reputed position as medicinal herb. According to these literatures the juice of this plant is purgative, carminative and useful in gonorrhoea, whooping cough, asthma dropsy, leprosy, enlargement of spleen, dyspepsia, jaundice, colic, tumours and stone in bladder etc. Unfortunately, the traditional healers of natives of Chhattisgarh are not much aware of these uses.

Botanically, it is an erect, unarmed shrub or a small tree having polished, cylindric, smooth and green branches; Bark rough, greenish-brown, cracked; Leaf small, linear oblong, caduceus; Inflorescence chiefly female, small, clustered in the forks of smaller branches; Fruit dark brown.

Officially, the name of Shir Thura is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors confirmed this information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional Healers of Kanker region.**

During the ethnobotanical surveys, I have identified and got opportunities to interact with Twenty nine Female Traditional Healers. Through the interaction with them I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of Kanker region are aware of many promising uses of Nirgundi (*Vitex negundo*). They use its leaves in treatment of pains. The leaves are used in specific way. The leaves are covered with a piece of cloth and cloth is kept inside earthen ball. This ball is kept on fire. After one boiling, the leaves are collected and by crushing it with the help of stone, aqueous paste is prepared. The paste is applied externally on painful parts. They informed that this paste is a boon for the patients having the problem of Migraine (Adhasisi). It is also applied on testicles in order to reduce the intense pain due to hydrocele. The patients having the joint pains are also advised by the healers to use the paste. In treatment of Puerperal septicemia, the Female Traditional Healers of this region use the leaf juice of Nirgundi internally. The use is given upto complete cure. According to them, this juice alone is capable of treating the trouble. They also suggest the patients to consume the curry (Sag) prepared by using the Nirgundi leaves. It acts as supplement to main treatment. In treatment of intense pain in pelvis, the aqueous paste of leaves is applied on painful parts. They further informed that the patients having liver related troubles must not take Nirgundi internally in any form. For them, they use other alternatives. The natural forests of Kanker region are rich in wild population of Nirgundi.

The Female Traditional Healers visit to the nearby forest and collect its different plant parts for preparation of medicine. The Nirgundi herbs growing near the waterlogged areas are not preferred. Similarly, Nirgundi growing in lateritic soil is also not considered as potential herb. They are not aware of the scientific reasons for these rejections but as traditional knowledge and practice they are continuing it without any modification. Like Nirgundi, Neem (*Azadirachta indica*) is also well known tree of religious and medicinal importance in this region of Chhattisgarh. During interaction, the healers informed me about some less known but promising medicinal uses of Neem plant parts. In treatment of skin related troubles they use it unique way.. The leaves are roasted well with cow ghee and in combination with dry fruit powder of Aonla (*Emblica officinalis*) given internally to the patients. According to them, the roasting in cow ghee makes the medicinal components present inside the Neem leaves active. In general, they suggest the common natives to take this combination during rainy season, in order to protect themselves from skin related troubles round the year. I personally feel that there is a strong need to popularize this promising use among the natives of young generation. The healers claimed that in case of fever due to common cough and cold, in small children, many times the roasted leaves of Neem give promising results. The leaves are burnt in the room of child patient. I have yet not seen its practical use. In cases of vaginal pain, the Female Traditional healers suggest the patients to put a small cloth bag filled with Neem seeds inside the vagina. It is considered as one of the promising treatments.

The Female Traditional Healers informed me that due to over exploitation of natural forests, many medicinal herbs are becoming rare. Now they have to go far for the collection of potential herbs. They do not believe much on herb vendors. According to them, the malpractice of adulteration is becoming very common now a days. They also complained about the patients hurry. Everyone wants quick cure and no one is ready to take long term systematic treatment to root out the troubles forever. They assured me that they will transfer the secret formulations to safe hand before their departure from this world.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female Traditional Healers of Durg region.

During the ethnobotanical surveys I have got opportunities to meet only nine Female Traditional Healers in Durg region. Through the interactions with them I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Female Traditional Healers of this region use the fruit peels of Petha (*Benincasa hispida*) in treatment of phthisis. The peels are collected and dried in shade. After drying the peels are converted into powder and kept for round the year use. The patients having phthisis are advised by them to take teaspoonful of this powder with sugar internally twice a day. According to them, in long term use it gives promising effects. In general, they suggest the common natives having the problem of respiratory troubles to take this combination upto a month in any part of the year particularly in winter season, in order to protect the body round the year from such troubles. I have tried and found it very useful. Besides curing phthisis, the healers also recommend its use in treatment of all types of internal bleeding. But as other promising herbs and herbal combinations are available, it is used less commonly. Petha is under cultivation for its fruits in many parts of Chhattisgarh. Although Guggul (*Commiphora mukul*) is not a native to Chhattisgarh, but the Female Traditional Healers of Durg region are aware of its medicinal uses and properties. As you know, the fragrant gum-resin known as Indian myrrh or gum-guggul, obtained from bark, is used as an incense and as fixative in Perfumery. The healers of Durg region use this gum as medicine. Before using the Gum collected from the sellers, the Female Traditional Healers purify it by adopting traditional method. The Gum is dipped in the decoction of Triphala [prepared by mixing Harra (*Terminalia chebula*), Bahera (*Terminalia bellirica*) and Aonla (*Emblica officinalis*) fruits in equal proportion]. After drying, the pieces of Gum are roasted with the help of cow ghee. When its fragrance starts spreading, the Gum is considered pure and used as medicine. The patients having the problem of Otorrhoea are suggested by the healers to burn a piece of Guggul gum and direct the fumes into the affected ear. It is considered as simple but promising use. The patients having the problem of Fistula are advised by them to take Guggul gum internally in combination with Triphala. The combination is taken continuously till complete cure. In treatment of swelling and wounds, the healers dip a piece of cloth in Guggal gum and apply it on affected parts. According to them, this simple treatment cures the trouble effectively in very less time. The Female Traditional Healers are aware of medicinal weed Charota (*Cassia tora*). Its seeds are used by them in treatment of Adhasisi (Migraine) in many ways. The seeds are crushed and with the help of water an aqueous paste is prepared. This paste is applied externally on painful parts. The patients are also advised to inhale the smell coming from finely ground Charota seeds. This use is practiced during the attack and it helps in reducing the intense pain. Like the traditional healers of other parts of Chhattisgarh, the

Female Traditional Healers of Durg region are also aware that to hasten the process of child birth, the roots of Charota can be used. The root piece is kept inside the vagina for this purpose.

The Female Traditional Healers informed that no one has never asked them about their traditional knowledge earlier. According to them, their ancestors were aware of many unique uses of common herbs but generation by generation the quantum of knowledge is decreasing. They are in worry that no one is ready to continue their traditional knowledge and practices, as new generation is showing no interest. This is not a good sign.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female Traditional Healers of Bagbahera region.

During the ethnobotanical surveys I got opportunity to meet sixteen Female Traditional healers. According to them, few years back there were more Female Traditional Healers in this region but due to age they are not with use now. Through the interactions with them I have collected many valuable information of traditional medicinal uses of common herbs and animal plant parts. I am giving the details in present article.

The Female Traditional Healers of Bagbahera region informed me about many promising uses of Andi (*Ricinus communis*) herb. I have written a lot on different aspects of this herb in previous articles but the information given by these healers is new. In treatment of convulsions, due to Tetanus, hysteria and other related troubles, they suggest the massage of patients through Andi

seed oil. After massage, the hot leaves of Andi are applied on affected parts. They claimed that the oil and leaves act as miracle and provide great relief to the patients. In treatment of old troubles of dysentery, the Female Traditional Healers use the freshly extracted juice of Andi roots in combination with cow milk. The patients are advised to take this combination internally upto long time. I got opportunities to interact with the patients taking this combination. They were satisfied with its performance. In treatment of vaginal pain, the healers suggest the patients to dip the cotton bud in Andi seed oil and kept it inside the vagina. The Female traditional Healers also use the cotton bud with Andi oil in same way in treatment of troubles common during pregnancy. To nullify the harmful effects of Fudhar (*Calotropis gigantea*) latex inside the eyes, in case of emergency, they apply few drops of Andi seed oil into the eyes. Andi grows as wasteland herb in many parts of Chhattisgarh. With the permission of the Female Traditional Healers now I am informing the natives of Chhattisgarh about the above mentioned promising uses through the popular articles. The healers informed me about special oil prepared by using the gall bladder of cow, used as aphrodisiac. The gall bladder and Hing (*Asafoetida*) are mixed and dipped in base oil. As base oil Sarson (Mustard seed) oil is used. The combination is kept under sunlight upto fifteen days. After this period, the oil is considered ready for use. They suggest the patients having poor sexual desire to massage the oil on genitals twice a day and if possible, to sit in sunlight exposing the genitals having oil. According to them, this promising oil roots out the trouble effectively in few days. In case of normal natives, this oil increases the sexual desire to great extent. The healers informed that to avoid its misuse and its use for amusement, they do not disclose the secret formulation to every one. In general, they prepare this oil at their homes and give it to the patients only. The special oil prepared by using the gall bladder of cow was new information for me. The healers informed that they have gained this unique knowledge from the forefathers. They further informed about the promising use of Kuchla (*Strychnos nuxvomica*) seeds in treatment of problematic case of Bavasir (Piles). The Kuchla seeds are mixed with sugar and given to the patients in small doses upto long time. They are aware that over doses of Kuchla can cause harmful effects. Before using the Kuchla seeds, they purify it by adopting traditional method. They consider this combination useful for other troubles related to digestive system.

I have observed during the survey, that the sixteen Female Traditional Healers are practicing the job of traditional healer as part time job. They informed that most of the patients prefer to take the treatment from male healers. This is not a good sign.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 204. Amli Ke Gulkand.

Amli is a local name of Tamarind. Amli is well known tree of religious and medicinal importance in Chhattisgarh. The dense forests are rich in natural population of this tree. The natives and traditional healers have in depth traditional medicinal knowledge about different uses of Amli and its plant parts. Amli Ke Gulkand is prepared by using its flowers. This preparation is used for medicinal purpose. The natives are not much aware of this preparation. The traditional healers consider it as promising supplement to main treatment of liver related troubles.

Material Required: Amli Phool (flowers) and Sugar.

Method of Preparation: In glass jars, one thin layer of Amli Flower is spread and on it one layer of sugar is applied. The process is continued till the layers fill the glass jars. The jars are kept in sunlight upto one month. After this duration, the Gulkand is considered ready to use. As per the recommendations of the healers, this Gulkand is taken internally round the year. In general, the traditional healers prepare it as their homes and give it to the patients without disclosing its ingredient and method of use.

For the botany, traditional and reported medicinal uses of Amli please read my previous articles.

Herbal dishes of Chhattisgarh, India. 203. Tinkonia Thura ke Bhajia.

Tinkonia Thura is a local name of *Euphorbia antiquorum*. It is well known herb in this part of Chhattisgarh. Tinkonia Thura Ke Bhajia is prepared by using its roots. This preparation is used for medicinal purpose only. Very few traditional healers are aware of this preparation and recommending it to the patients. According to them, in early days this preparation was very popular among common natives also. The healers recommend this preparation to the patients having rheumatic troubles. This dish is used as supplement treatment to main treatment. I personally feel that there is a strong need to popularize this dish among the common natives of young generation by convincing them about its health benefits because the rheumatic troubles are becoming common troubles these days.

Material Required: Tinkonia Thura roots, Besan (Chickpea flour), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: The roots are cut into small pieces or in fine powder after drying in shade. These pieces are mixed with Besan and by adding water and other ingredients thick paste is prepared. The thick paste is given a shape of big globules. Oil is taken in pan and pan is kept on fire. The globules are fried well in oil and Bhajia is served with hot tea as breakfast.

For the botany, traditional and reported medicinal uses of Tinkonia Thura please read my previous articles.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 184. Tinkonia Thura (*Euphorbia antiquorum*, family Euphorbiaceae).

According to the reference literatures, Tinkonia Thura is a shrub occurring in warmer regions of India. The traditional healers and natives of Chhattisgarh are aware of its presence in natural forests and wastelands. In many parts of Chhattisgarh, this herb is planted as live fence around the fields in order to restrict the entry of wild animals. Although Tinkonia Thura is well known herb but it is a matter of surprise that the traditional healers of Chhattisgarh are not much aware of its traditional medicinal properties and uses like Thura, *Euphorbia neriifolia*. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on its traditional medicinal uses. I am giving the details in present article. The traditional healers of Chhattisgarh speculated in treatment of snake bite suggest the natives to apply the latex of Tinkonia Thura in affected part immediately as first aid measure. According to them, it is one of the well proven treatments. I have seen its practical uses many times during surveys in Bagbahera region. In treatment of Chronic cough, the traditional healers of Chhattisgarh Plains use the stem juice of this herb internally with whole herb juice of Arusa (*Adhatoda vasica*) and Shahad (Honey). The lukewarm combination is given internally many time a day. The healers informed that like *Euphorbia neriifolia*, the overdose of this combination do not cause any harmful effects. It is also considered useful in treatment of Chronic constipation. The traditional healer of Mudpar village use it internally in combination with other herbs in treatment of spleen related troubles particularly in treatment of enlarged spleen. I have mentioned in previous articles that the Farm Workers of Gandai-Salewara region use the decoction of root or raw latex in combination with Besan (Chickpea flour) in treatment of Garmi (Syphilis). The latex is also used externally in treatment of toothache and pain in Piles. In reference literatures related to different systems of medicine in India, many medicinal uses and properties of Tinkonia Thura have been mentioned. According to Ayurveda, the plant is purgative, pungent, digestive, bitter and heavy. It is useful in treatment of constipation, flatulent distention, tumours, swellings, abdominal enlargement, rheumatism, spleen, leprosy, mania and jaundice. Unfortunately, the traditional healers and natives of Chhattisgarh region are not much aware of these uses.

Botanically, Tinkonia Thura is a herb with succulent, leafless and shrubby stem; Branches spreading, triangular or quadrangular, angles sinuated and armed with double spines at the Protuberances; Peduncles solitary or in pairs, 3-flowered; Stamens only five.

Officially, the name of Tinkonia Thura is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors informed that they

collect and trade this herb and its plant parts on specific demand. Through the on-going surveys I am trying my best to gather more information on different aspects of this herb.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about the common herbs in Chhattisgarh, India. :
Interactions with the Female Traditional healers of Pendra region.**

From this article, I am starting a new series based on the interactions with the Female Traditional healers of different part of Chhattisgarh. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have identified over 550 Female traditional healers. These healers are not only specialized in treatment of gynaecological troubles but also they are treating many common troubles. They are practicing the traditional knowledge about common herbs gained from their forefathers. Like other healers, these Female traditional healers are not charging any fees for the treatment. Besides practicing traditional knowledge they are cultivating agricultural crops in order to earn for livelihood. Not much has been written on Female traditional healers and their knowledge by the early researchers. I am feeling proud and also thankful to Mother Nature for providing me opportunity to document the in depth traditional medicinal knowledge about common herbs, the Female traditional healers of Chhattisgarh are having. I am starting this series from the results of interactions with the Female Traditional Healers of Pendra region. I will try to write the separate articles focused on specific female traditional healers also.

The Female Traditional Healers of Pendra region informed me about a special herbal oil used in treatment of joint pains. This herbal oil is prepared by boiling fresh herb of Akarkara (*Spilanthes*

acmella) in base oil. As base oil Sarson (Mustard seed) oil is used. When all watery contents evaporate, the boiling is stopped and special herbal oil is kept for future use. In painful joints, this special herbal oil is massaged gently. To make the oil more useful and powerful the Female Traditional Healers add Nirgundi (*Vitex negundo*) leaves and Kukronda (*Blumea lacera*) roots before boiling. They prepare this herbal oil at their homes and without disclosing its secret formulation give to the patients. As they are in favour of its use in little amount to the patients very little quantity of special oil is given. For Akarkara herb, they are dependent on natural forests present in surroundings. Many herb vendors also supply this herb but it is less preferred. I have mentioned in previous articles that the traditional healers of many parts of Chhattisgarh use Akarkara in treatment of dental and mouth related troubles. It is used in form of either tooth powder or decoction. The Female Traditional Healers informed about new method of use. The Akarkara roots are roasted in cow ghee and patients having dental troubles are advised to keep the root piece inside the mouth upto long time. According to them, through this way the root pieces can also be used in treatment of throat related troubles. The Female Traditional Healers of this region are well known for their expertise in treatment of Motiabind (Cataract). After knowing the importance of on-going documentation work, they got ready to tell about one secret formulation. I am disclosing the formulation through this article among the world community with the hope that it will be of great use for the patients around the world. The Female Traditional Healers prepare a sweet dish from Badam (Almond) known as Badam Ke Halwa. (For details about this preparation please read my previous articles). In Halwa, they add Afeem (Opium) and give it internally. This preparation is taken once in a day upto two week. After this period, the patients are advised to take only Badam Halwa not by adding Afeem. According to the Female Traditional Healers, this treatment roots out the trouble completely. I have tried it successfully many times. The Female Traditional Healers are aware of its other health benefits also. It is considered promising in treatment of old headache and chronic cough and cold. I personally feel that there is a strong need to popularize this treatment among the natives, as these troubles are common.

The in depth traditional medicinal knowledge, the Female Traditional Healers are having is the matter of appreciation. You will find the details regarding many such formulations in coming articles of this series.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Gandai-Salewara region.**

Through the interactions with the Farm Workers of Gandai-Salewara region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the detail in present article.

The Farm Workers of this region are aware of many promising medicinal uses and properties of common wasteland weed Fudhar (*Calotropis gigantea*). I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use Fudhar plant parts in treatment of fever. The Farm Workers of Gandai-Salewara region use the root bark of Fudhar in treatment of Malarial fever. The root bark, kept inside the Paan (Betel vine) leaf is taken internally as treatment. The use is continued till complete cure. The traditional healers of this region are also aware of this use. They informed that the root bark of Fudhar can be used as promising supplement to main treatment. In treatment of pain, the Farm Workers use the Doodh (Latex) of Fudhar carefully. It is applied in form of thin layer on painful parts. They informed that the thick layer can cause irritation in skin. As other promising and safe alternatives are available, they use the Fudhar latex less commonly. From documentation point of view it is an important information. Many Farm Workers are aware of the demand of Fudhar plant parts in local markets. They collect and sell it to the local herb traders. They informed that there is a higher demand of white flowered Fudhar herb and its plant parts. Many Farm Workers use the old roots of Fudhar in Tantra activities. The roots are also sold for this purpose. The Farm Workers informed about many common uses of Tinkonia Thura (*Euphorbia antiquorum*). They plant this herb in crop fields as live fence. Many senior Farm Workers use the decoction of its root in combination with Besan (Chickpea flour) in treatment of Garmi (Syphilis). The combination is given a shape of small globules and taken internally many times a day. The traditional healers of this region, aware of this use, suggested that the latex of Tinkonia Thura can be used in place of root decoction in same way to get more powerful effects. They consider it as useful combination in treatment of rheumatism also. The Farm Workers use its latex externally also. In treatment of toothache, the latex is applied on painful teeth. The latex is applied externally on painful piles also. Bael (*Aegle marmelos*) is well known tree of medicinal and religious importance in this part of Chhattisgarh. The Farm Workers use the immature fruits of Bael in treatment of digestive system related troubles. The fruits are roasted well before use. This use is very popular among them. The Farm Workers use its root in treatment of mental troubles. It is considered as a boon for the patients having the problem of mental depression. In treatment of Dysentery, the Farm Workers use the bark of Chirai Jam (*Syzygium cumini*) in form of decoction. The freshly prepared decoction is taken in small doses many times a day. In treatment of same troubles, they also use the fruit rind of Anar (*Punica granatum*) in form of decoction. The traditional healers of this region confirmed the promising effects of above mentioned remedies.

During the interaction, the Farm Workers showed me many rare herbs and informed about its unique medicinal properties. I am in process of its true identification. You will find the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 202. Khansi Bar Chutney.

Khansi Bar Chutney is a herbal preparation recommended by the traditional healers of Chhattisgarh Plains to the patients having the problem of common cough and cold. It is also used as medicine in advanced stages. This preparation is very popular among the traditional healers. The common natives are not much aware about this preparation. This Chutney is prepared by using Harra (*Terminalia chebula*) fruit powder and Sonth (Dried Ginger), as main ingredients. This Chutney is used as supplement treatment to main treatment. The traditional healers of Southern Chhattisgarh recommend this preparation to the patients having asthma. According to them, it acts as both curative and preventive to asthma. I personally feel that there is a strong need to popularize this traditional dish among the common natives of Chhattisgarh.

Material Required: Harra fruit powder, Sonth (in powder form), Garlic (Lason) and Namak (Salt).

Method of Preparation: All ingredients are mixed and water is added in it. With the help of stone, the mixture is crushed into fine paste. This paste is known as Chutney. It is served with Baht (Cooked Rice). In general, the traditional healers recommend different doses to the patients according to the intensity of trouble.

For the botany, traditional and reported medicinal uses of Harra and Sonth, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 201. Shikakai Ke Chutney.

Shikakai is a local name of Soap Pod (*Acacia concinna*). It is a prickly scandent bush occurring in many parts of Chhattisgarh. Its pods are used as detergent for washing hairs, silk and woolen fabrics. Shikakai Ke Chutney is prepared by using its leaves. This preparation is popular in forest region of Chhattisgarh. The natives consume it for its specific delicious taste. They are not much aware of its health benefits. The traditional healers of Chhattisgarh recommend this Chutney to the patients having liver related troubles. It is used as supplement treatment to main treatment. As medicine, the healers instruct the patients to prepare the Chutney by mixing Shikakai leaves and Kali Mirch (*Piper nigrum*) fruit powder only. The natives prepare the Chutney using many spices. The Chutney prepared by popular method is considered less effective from health point of view.

Material Required: Shikakai leaves, Lason (Garlic), Namak (Noon), Mircha (Chilli), Masale (Spices).

Method of Preparation: Shikakai leaves are washed thoroughly in running water. The leaves and all other ingredients are crushed into fine paste with the help of stone. The fine paste is known as Chutney. It is served with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Shikakai herb, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 183. Bukhar lata (*Pupalia* sp., family *Amaranthaceae*).

For the first time I got information about *Pupalia* herb from the traditional healers of Southern Chhattisgarh. The healers use the herb both internally as well as externally in treatment of fever (Bukhar means fever locally; lata-herb). Initially, I kept this herb in the category of unidentified herbs. Later, the traditional healers of Pendra region informed that this herb can be used successfully in treatment of Leprosy and also in treatment of skin related troubles. The healers of this region are not aware of its name as Bukhar lata. They have yet not coined its local name. Through the internet and reference literatures on flora, I identified it as *Pupalia*. I am still not sure about the species because I have observed much variations in different *Pupalia* herbs of different regions. The herb collectors of Chhattisgarh are also aware of this difference. They consider the *Pupalia* herb collected from Chhattisgarh Plains and Southern Chhattisgarh more promising as compared to the *Pupalia* herb collected Northern Chhattisgarh. In reference literatures related to different systems of medicine in India, I have yet not found much detail regarding its medicinal properties and uses. The traditional healers of Chhattisgarh use its whole herb and roots whereas in some reference books the use of its Fruit is mentioned. In treatment of fever, the traditional healers use the decoction of whole herb internally. The whole herb is collected and dried in shade. After drying it is boiled in water. When half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is taken internally many times a day. The traditional healers use this decoction as supplement treatment with other herbs and herbal combinations. They informed that the over dose of this decoction may result in harmful effects. Externally, the ash collected by burning the whole herb is used in form of

aqueous paste. The paste is applied on body during high temperature. According to the healers, the application of paste not only helps in reducing the high temperature but also removes body pain. The traditional healers of Pendra region add its roots in popular herbal combinations used in treatment of Leprosy. In treatment of skin related troubles, the decoction of freshly collected root is used externally. These traditional medicinal uses have yet not been reported in reference literatures.

Officially, the name of Pupalia herb is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Workers of Keshkal region.

Through the interactions with the Farm Workers of Keshkal region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region informed about many important medicinal uses of Bhang (*Cannabis sativa*) herb. They are aware of its narcotic properties. As you know, the herb of *Cannabis sativa* yields narcotics including Bhang, Ganja and Charas from leaves and flowers. The Farm Workers use this herb as medicinal herb. In treatment of chronic cough they use

Bhang internally in limited doses. Bhang is composed of dried leaves and flowering shoots of male and female plants, both cultivated and wild. In treatment of same trouble, many Farm Workers use Ganja as medicine. Ganja is consist of dried unfertilized female inflorescence, Ganja is a form in which drug is used for smoking. In treatment of joint pains, the Farm Workers use the seeds of *Cannabis sativa*. The freshly collected seeds are boiled in base oil and when all watery contents evaporate boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) oil is used. The specially prepared oil is used externally in form of massage. It is considered as one of the promising treatments. The traditional healers of Keshkal region are also aware of these uses. They confirmed its promising effects and added that through judicious use this narcotic herb can be used as life saving remedy. Bhatkatiya (*Solanum xanthocarpum*) is a well known wasteland weed in this part of Chhattisgarh. The Farm Workers are aware of its many medicinal uses and properties. They have kept it in the category of medicinal weeds. They use the decoction of its roots in treatment of fever due to infection in lungs. The traditional healers of this region informed that this decoction can be used as promising supplement treatment to main treatment and at early stages this decoction acts as miracle. In treatment of vomiting and vomiting sensation, the Farm Workers use the juice of Bhatkatiya roots in combination with Shahad (Honey) internally. This use is very popular among them. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the fruits of Gokhru (*Tribulus terrestris*) alone and in combination with other herbs as promising sex tonic and aphrodisiac. The Farm Workers of Keshkal region are also aware of this use. Many senior Farm Workers informed that the combination of Gokhru fruits and Til seeds (*Sesamum indicum*) mixed in equal proportion is best combination and can be taken internally with cow milk and Shahad (Honey). In general, the senior Farm Workers suggest the use of this combination in winter season in order to maintain good health round the year. They are also aware of the use of its fruits in treatment of Kidney related troubles particularly in treatment of Pathri (Renal Calculi). The traditional healers of Keshkal region, aware of this use, informed that Gokhru can be used with Kulthi (*Dolichos biflorus*) in treatment of Renal Calculi. Gokhru grows as wasteland weed in sandy soils of this region. Many Farm Workers are aware of its local demand. They collect and sell it to the local herb traders, besides using it as medicinal herb.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling lucky to document these traditional uses for the first time.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Jagdalpur region.**

Through the interactions with the Farm Workers of Jagdalpur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In treatment of vomiting and vomiting sensation, the Farm Workers of Jagdalpur region use the combination of Adrak (Ginger) and Piaz (Onion) leaf juice. This use is very popular among them. The traditional healers of this region are also aware of this use. They warned that the patients having heart and kidney related troubles must avoid this combination. For other patients, it is one of the promising treatments. I have informed the Farm Workers about the healer's comment. Many Farm Workers prepare a special herbal oil by boiling Sonth (Dried Ginger), Kukronda (*Blumea lacera*) roots and Pippali (*Piper longum*) in base oil. As base oil Sarson (Mustard seed) oil is used. When all watery contents evaporate, the boiling is stopped and oil is kept for future use. The Farm Workers use this oil in treatment of rheumatic pains. It is massaged gently on affected parts. They have deep faith in this traditional use. Its popularity among them clearly indicates its effectiveness. The traditional healers of this region prepare the same oil using Sonth and Pippali. When I informed them about the addition of *Blumea* roots, they tried and found it really effective. I have noted during the survey that many Farm Workers sell this special herbal oil to the herb vendors and other interested natives without disclosing its ingredients. I have also tried this herbal oil and found it effective. In treatment of Piles (*Bavasir*), the Farm Workers use the combination of Kali Mirch (*Piper nigrum*) and cow ghee. The fruits are converted into fine powder and with the help of cow ghee, paste is prepared. This paste is applied externally on anus. According to the Farm Workers the regular application of this combination not only reduces the pain but also reduces its size and very soon the patients get rid from this trouble. In treatment of toothache, the Farm workers use the fruits of Kali Mirch in form of decoction. The decoction is used as gargle. It is also considered useful in treatment of Stomatitis and other related troubles. Many senior Farm Workers informed that the decoction prepared by boiling Zeera (Cumin) seeds in water is beneficial in treatment of skin related troubles. The affected parts are washed with the help of decoction. This use is not much popular now a days. The Farm Workers use Zeera in combination with Shahad (Honey), Cow ghee and Namak (Salt) in treatment of Scorpion bite. It is used externally as first aid measure. After the

arrival of the traditional healers, they take systematic treatment. The traditional healers of this region confirmed its promising use as first aid measure. Like the natives and traditional healers of other parts of Chhattisgarh, the Farm Workers of this region are also aware of use of Haldi (Turmeric) in treatment of skin related troubles both internally as well as externally. The Farm Workers use Haldi in combination with cow urine internally whereas externally it is applied in combination with Makkhan (Butter). According to them, both internal as well as external uses at a time cure the trouble effectively in very less time.

The Farm Workers extended their full support and in spite of problem of language, I got much success to gather the information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Bilaspur region.**

Through the interactions with the Farm Workers of Bilaspur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the roots of Doomar (*Ficus glomerata*) in treatment of Safed Dag (Leucoderma). The roots are used in form of decoction. The Farm Workers of Bilaspur region are also aware of this use but they add the roots of Kathumbar (*Ficus hispida*) with Doomar

roots in order to get more promising effects. Both roots are mixed in equal proportion. The patients are suggested to sit under open sky in sunlight after taking this decoction. The internal use of decoction produces blisters of white spots and through this way cures the trouble. The traditional healers of Bilaspur region were not much aware of this decoction. When I informed them, they hesitated initially but later, they found it really effective. The healers informed that the patients of Leucoderma are increasing at fast rate in Chhattisgarh and this new combination can serve the patients in more promising way. They thanked the Farm Workers for sharing valuable traditional knowledge. Both Doomar and Kathumbar are well known trees in this part of Chhattisgarh. Later, while studying the ancient literatures related to different systems of medicine in India, I found many similar uses. This is good sign that the Farm Workers of Bilaspur region are practicing this ancient knowledge with faith. Many senior Farm Workers informed that the common gynaecological troubles can be treated successfully with the help of Majith (*Rubia cordifolia*) wood piece. The wood is converted into powder and after boiling it in water, decoction is prepared. This decoction is given internally many times a day as treatment. The use is continued till complete cure. The traditional healers of this region are aware of this use. They confirmed its promising effects. Harra (*Terminalia chebula*) is well known tree of medicinal importance in this region. Beside its use in other troubles, the Farm Workers use its powdered fruit stone in treatment of Piles specially bleeding piles. The powder is applied many times a day in anus. It is considered as one of the promising treatments. It was new information for me. The senior Farm Workers informed that in early days they were using the powdered stone in treatment of diabetic carbuncle. Although this use is not popular now but from documentation point of view, it is the important information. The traditional healers of Bilaspur region added that the powdered stone can also be used in treatment of pimples. Like Harra, Bahera (*Terminalia bellirica*) is also a well known tree. The Farm Workers use its seed pulp internally in treatment of common swellings but the pulp is taken in small doses. They are aware that larger doses act as narcotic and can produce harmful effects.

Like the Farm Workers of other region, the Farm Workers of Bilaspur region are also aware of many medicinal weeds like Charota (*Cassia tora*), Bemchi (*Psoralea corylifolia*), Bathua (*Chenopodium album*), Hurhur (*Cleome viscosa*), Kaua-Kaini (*Commelina benghalensis*), Zillo (*Vicia sp.*), Muscaini (*Ipomoea reniformis*) etc, but in spite of using these weeds in treatment of their health related troubles, the Farm Workers are collecting and selling it to local herb traders and earning an additional income.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 200. Bar Ke Murabba.

According to the reference literatures, Bar (*Ficus benghalensis*) is a large, spreading, evergreen tree extending laterally by sending down aerial roots from branches. The tree may reach immense size by means of aerial roots which grow in thickness and form pillars surrounding the branches. It is sacred tree in India. Bar is well known tree of religious and medicinal importance in Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this tree. Bar Ke Murabba is prepared by using its fruits. The natives are not much aware of this preparation. The traditional healers are aware of its health benefits. They recommend it for specific purpose. It is considered as a boon for the patients having the problem of diabetes. According to the healers, in early days this preparation was not in much use. The increasing number of patients have forced them to try this traditional dish as new alternative. They found it very promising and now through one healer to others, this knowledge is spreading very rapidly. This is good sign. As diabetes is worldwide problem, I personally feel that this traditional knowledge can be of great help for the patients around the world.

Material Required: Bar fruits and Sugar.

Method of Preparation: Bar fruits are boiled in water and after boiling cut into small pieces. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The small pieces are added in hot Chashni and Murabba is prepared. Once prepared in bulk it can be used upto long time as per the recommendations of the traditional healers. The healers are not aware of its other health benefits.

For the botany, traditional and reported medicinal uses of Bar, please read my previous articles.

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Herbal dishes of Chhattisgarh, India 199. Sita Ashok Chhali Ke Halwa.

Ashok or Sita Ashok is a local name of *Saraca asoca*. According to the reference literature, it is a tree native to India and grown in gardens for its scarlet-orange flowers. Sita Ashok is well known herb in Chhattisgarh. The natives and traditional healers of the state are aware of many medicinal uses of this herb. Ashok Chhali Ke Halwa is a sweet dish prepared and recommended by the traditional healers of Gandai-Salewara region. The dish is prepared by using its bark (Chhali). The natives of Chhattisgarh are not much aware of this preparation. The traditional healers of Gandai-Salewara region suggest the patients having gynaecological problems to take this preparation once in a week. It is considered as promising supplement treatment to main treatment. The traditional healers informed that in early days this preparation was very popular among the natives also but now a days this is becoming a thing of past. I personally feel that there is a need to popularize this sweet dish.

Material Required: Ashok Chhali, Sugar, Ata (Wheat flour) , Cow ghee and Cow milk.

Method of Preparation: Ashok Chhali is dipped in cow milk overnight and next morning dried in shade. After drying it is converted into fine powder. Separately, Cow ghee is taken in pan and wheat flour and fine powder are added. The combination is roasted well. In this roasted combination, sugar syrup is added to prepare the Halwa. Once prepared in bulk, this Halwa can be kept for long time but the traditional healers recommend the use of freshly prepared Halwa.

For the botany, traditional and reported medicinal uses of Sita Ashok please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 182. Jangli Badam (*Terminalia catappa*, family Combretaceae).

Although I have written a lot on various aspects of this medicinal tree in my previous articles but the new uses of this herb in treatment of many new and complicated diseases, I have collected through the recent ethnobotanical surveys in different parts of Chhattisgarh motivated me to write a separate article on Jangli Badam. The traditional healers of Tilda region have discovered the use of Jangli Badam bark in treatment of Sick Cell Anaemia, locally known as Sickling. This new disease is spreading very rapidly in Chhattisgarh and in modern system of medicine there is now systematic treatment of this trouble. The traditional healers are adding its bark in population herbal combinations, after specific treatment. Although they refused to disclose this specific treatment of bark but informed that the treatment is to remove toxic contents from bark. According to them, the toxic contents can aggravate the trouble. The herb vendors confirmed that in many areas the traditional healers have increased the demand of Jangli Badam Chhali (bark). The traditional healers of Gandai-Salewara region are using the bark of Jangli Badam externally in treatment of Psoriasis. They collect the bark in winter season and kept it under open sky overnight. Early morning the bark with dew drop is collected and by crushing, juice is extracted. This juice is applied externally on skin troubles. The healers claimed that this new use is developed by them in recent past. This is good sign that the healers of present generation are contributing in traditional knowledge. For other traditional medicinal uses please read my previous articles. According to the reference literatures, Jangli Badam occurs throughout the hotter parts of India. Its Kernel (seeds) are edible and bark and fruits are used for tanning. Fruit are also source of black dye. Its wood is used for construction work, especially suitable for post, beams and rafters. Botanically, it is a very fast growing, large, handsome tree; branch whorled, monochasial, giving a characteristic appearance; Bark rough, brownish grey or dark grey; Leaf large obovate, glabrous above, pubescent beneath, often turns red before falling; Flower white, small, star shaped, in axillary spikes; Fruit yellowish or reddish, ellipsoidal,

distinctly compressed drupe; Seed edible, oily, almond like in taste. This is the reason it is known as Jangli Badam (Wild Almond).

Officially the name of Jangli Badam is not present in the list of medicinal herbs informed that the different parts of this tree are in trade since past and there is a regular demand of it. Although bark is in trade but its existing rate of collection is not posing any threat on its natural population.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Saraipali region.

Through the interactions with the Farm Workers of Saraipali region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region use a special herbal oil prepared from Chita (*Plumbago zeylanica*) roots in treatment of pains. The freshly collected root is boiled in Sarson (Mustard seed) oil and when all watery contents evaporate, the boiling is stopped and special oil is kept for future use. This oil is applied externally on painful parts. It is considered as a boon for the patients having joint pains and related complications. I have also noted during the survey that many Farm Workers prepare and sell this special herbal oil in bulk to the herb vendors. To hide its ingredients, they add more herbs in it. The traditional healers of Saraipali region, aware of this use, confirmed its promising effects. Sita Ashok (*Saraca indica*) is well known tree of religious and medicinal importance in this part of Chhattisgarh. I have mentioned in previous

articles that the natives and traditional healers of many parts use Sita Ashok bark both internally as well as externally in treatment of gynaecological troubles. The Farm Workers of Saraipali region are also aware of this use. They informed about its new use. They use its bark in powder form in treatment of bone fracture. According to them its internal use with cow milk helps in reunification of bone. Many of them consider it equally important as Koha (*Terminalia arjuna*) bark. The traditional healers of this region added that like Koha bark, this bark can also be used in treatment of fractured bone externally also. Bemchi (*Psoralea corylifolia*) grows as winter season weed in Saraipali region. The Farm Workers use its seeds in treatment of Safed dag (*Leucoderma*) both internally as well as externally. Internally, they apply the powdered seeds in combination with cow urine. Internally, they use Bemchi seeds in unique way. They boil the seeds in Aonla (*Phyllanthus emblica*) fruit juice and Kattha (*Acacia catechu*) aqueous extract and prepare a decoction. This decoction is taken internally once in a day. Every day fresh decoction is prepared. The use is continued till complete cure. You will be surprised to know that the traditional healers of Saraipali region are not much aware of this unique use. During the survey, I got the opportunity to interact with the Farm Workers that are taking this decoction as treatment. They were satisfied with this simple but promising use. Many Farm Workers aware of the local demand of Bemchi collect it from crop fields and sell it to the herb traders. In this way they are earning an additional income from this so called waste plant. Many senior Farm Workers informed that the fruits of Bar (*Ficus benghalensis*) can be used in treatment of diabetes. They consume its fruits raw as treatment. It is considered as supplement treatment to main treatment. Bar is well known tree in Saraipali region. In treatment of Dysentery, the Farm Workers use another *Ficus* species i.e. *Ficus glomerata*. It is known as Doomar locally. They collect its latex and add it with cow milk. The combination is given internally many times a day as treatment.

This is hard to imagine the in depth traditional knowledge about common herbs, the Farm Workers of Saraipali region are having, by simply seeing them. I am not satisfied with the surveys and planning to visit the region again for more detailed surveys. You will find more details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Workers of Kondagaon region.

Through the interactions with the Farm Workers of Kondagaon region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many promising medicinal uses of Harshringar (*Nyctanthes arbor-tristis*). Harshringar is planted as ornamental herb in home gardens in this part of Chhattisgarh. In treatment of Sujak (Gonorrhoea) as supplement treatment, the Farm Workers use the inner bark of Harshringar internally. The bark is used in form of decoction. The use is continued till complete cure. The traditional healers of this region are also aware of the decoction. They confirmed its promising effects but emphasized that the decoction must be used in concentrate form in order to get promising results. In treatment of snake bite as first aid measure, the Farm Workers take the leaf or bark juice of Harshringar internally. It is used as first aid measure till the arrival of the traditional healers for systematic treatment. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the leaf juice of this herb in treatment of common skin troubles. The Farm Workers of Kondagaon region are also aware of this use. They added that for more promising effects the seeds of Harshringar in form of aqueous paste can be used. This use is very popular among them. The natural forests of this region are rich in wild population of both species of Sarpgandha (*Rauvolfia serpentina* and *R. tetraphylla*). The Farm Workers informed that in treatment of stomach pain when all remedies fail they use the root powder of Sarpgandha in small quantities internally. This was new information for me. Also for the traditional healers of Kondagaon region. Later, these healers tried Sarpgandha roots in treatment of stomach pain and found it very promising. The Farm Workers are not aware of its use in treatment of Hypertension. Very few senior Farm Workers informed that it can be used in treatment of insanity, but they are not aware of the method of its use. The Farm Workers confirmed the information that the natural availability of Sarpgandha is decreasing in the region at very fast rate. Many of them showed some Sarpgandha rich spots but I have identified the wild population as *R. tetraphylla*. Dhanbaher (*Cassia fistula*) is well known tree of medicinal and religious importance in this part of Chhattisgarh. Many Farm Workers prepare a sweet dish named Dhanbaher Ke Gulkand by using its flowers. This sweet preparation is used round the year. It is considered as a boon for the patients having the problem of chronic constipation. Like Dhanbaher, Kevatch (*Mucuna pruriens*) also grows naturally in this region. During surveys, I have noted that this region is rich in natural biodiversity of Kevatch. Kevatch is also under cultivation in Kondagaon region. Through interaction I got new information regarding the medicinal uses of its leaves. The Farm Workers use its leaves in combination with Kali Mirch

(Piper nigrum) in treatment of intestinal worms. According to them, in few doses this combination flushes out the worms effectively in very less time.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. During the survey I have observed that the Farm Workers are not only aware of the traditional medicinal knowledge about common herbs but also they are using this knowledge in their day to day life.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 198. Van Doomar Ke Murabba.

Like the Van Doomar (*Ficus palmata*) Ke Sag (please read the article no. 196 in this series), the natives of many parts of Chhattisgarh also prepare Murabba, a sweet preparation from its fruits. This preparation is not much popular. The natives prefer to consume fresh fruits. Van Doomar ke Murabba is very popular among the traditional healers of Chhattisgarh. They consider it as a boon for the patients having gynaecological troubles. This Murabba is used both as preventive and curative to these troubles. During the ethnobotanical surveys conducted in different parts of Chhattisgarh I got opportunity to meet with female patients using this preparation. The promising results encouraged me to include this Murabba in present series on Herbal dishes of Chhattisgarh.

Material Required: Van Doomar Fruits and Sugar.

Method of Preparation: The fruits are cut into small pieces and boiled in water. Separately sugar is boiled in water to prepare the Chashni (Syrup). The fruit pieces are added in hot Chashni and Murabba is prepared. Once prepared in bulk, it can be used round the year.

For the botany, reported and traditional medicinal uses of Van Doomar, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 197. Van Doomar Ke Sag.

According to the reference literatures, Van Doomar or Anjiri (*Ficus palmata* syn. *F. virgata*; *F. caricoides*) is a woody shrub or small tree. The natural forests of Chhattisgarh are rich in this herb. In many parts of Chhattisgarh, its young shoots are used as Sag (Curry). This curry is popular among the poor natives. It is consumed due to its specific taste. Many traditional healers of Chhattisgarh are aware of its health benefits. The traditional healers of Chhattisgarh Plains recommend this curry to the patients having the problem of Chronic constipation. It is considered as good blood purifier by the traditional healers of Gandai-Salewara region.

Material Required: Van Doomar young shoots, Lason (Garlic), Mircha (Chilli), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: The young shoots are cut into small pieces. Oil is taken in pan and pan is kept on fire. The small piece of young shoots and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, reported and traditional medicinal uses of Van Doomar please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 196. Koha Ke Halwa II

Koha is a local name of *Terminalia arjuna*. It is well known tree of medicinal importance in Chhattisgarh. In previous article on Koha Ke Halwa I, I have mentioned about the method used by the natives and traditional healers of Northern Chhattisgarh to prepare the sweet preparation from its bark. In present article, I am describing the method that is in use in Chhattisgarh Plains. Koha Ke Halwa I is used in treatment of Migraine and also in treatment of heart troubles but the Koha Ke Halwa II is used only in treatment of heart trouble. The common natives are not much aware of this preparation. According to the traditional healers this preparation is a boon for the patients having heart troubles. In general, its use is recommended once in a week. This dish acts as supplement treatment to main treatment.

Material Required: Koha bark, Cow milk, Sugar, Wheat flour (Ata) and cow ghee.

Method of Preparation: Koha bark is dipped in cow milk overnight and next morning dried in shade. After drying it is converted into fine powder. Cow ghee is taken in pan and fine powder of bark and Ata are added. The combination is roasted well. In this combination Sugar syrup

(Chashni) is added and Halwa is served hot. Once prepared in bulk, the Halwa can be kept up to longtime but the traditional healers recommend the use of freshly prepared Halwa.

For the botany, traditional and reported medicinal uses of Koha ,please read my previous articles.

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Medicinal herbs of Chhattisgarh, India, having less known traditional uses. 181. Jari (*Ficus tsjakela*, family Moraceae).

According to the reference literatures, Jari (*Ficus tsjakela* syn. *F. venosa*) is a tree that occurs in South India. Its leaves are source of food for silk worm. The traditional healers and herb collectors of Chhattisgarh have confirmed my observation that this tree is present in Chhattisgarh also. It is growing as wild tree in natural forest. Many traditional healers of the state consider its bark and fruits as promising alternative to Doomar (*Ficus glomerata*) but many healers do not consider it as alternative. In fact, Doomar is already present in abundance and therefore there is no need of its alternative. This is reason that the traditional healers of Chhattisgarh are not much aware of medicinal uses and properties of Jari. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on traditional medicinal uses of Jari. The traditional healers of Southern Chhattisgarh use its bark in form of decoction in treatment of mouth related troubles. It is also used in combination with other herbs. The traditional healers of Gandai-Salewara region add its powdered bark in popular herbal combinations used as blood purifier. According to the healers, the bark plays an important role in these combinations. It is specially given to the patients having poor vitality. The traditional healers of Chhattisgarh Plains suggest the patients to use its mild decoction to wash the hair in order to root out the problem of lice and dandruff. But as other promising alternatives are available, it is used less commonly. The traditional healers of Bagbahera use its root spreading in north direction, in treatment of diabetic carbuncle, in

combination with other herbs. These traditional medicinal uses have yet not been reported in reference literatures.

Officially, the name of Jari is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb traders and collectors confirmed this information. The herb vendors collect its different plant parts for the traditional healers.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Jashpur region.

Through the interactions with the Farm Workers of Jashpur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of Jashpur region informed me about many medicinal uses and properties of Arusa (*Adhatoda vasica*). It is well known herb in this region. Like the natives and traditional healers of other parts of Chhattisgarh, they are also aware of uses of Arusa both internally as well as externally in treatment of respiratory troubles. In case of scorpion sting, the Farm

Workers use the roots of Arusa as first aid measure. The aqueous paste of root is applied on affected parts. The traditional healers of Jashpur region, aware of this promising use, confirmed its effects and utility as first aid measure. The senior Farm Workers of this region informed that in order to get sound health round the year they use the Arusa leaf juice in combination with other herbs. The leaves are boiled in water and juice is extracted. In this juice, Tulsi (*Ocimum sanctum*) leaf juice, Adrak (Ginger) juice and Shahad (Honey) are added. The combination is taken once in a day. This combination is taken internally upto one month for year round effect. I have tried it and got good results. It is specially suited for the patients having troubles related to respiratory system. In Chhattisgarh, these troubles are becoming common among the youths. Through the articles in local language I am trying my best to aware the youths about traditional combination like Arusa based combination. I have noted during the survey that many Farm Workers aware of local demand of Arusa, collect it in bulk and supply it to the local herb traders. Although they are getting poor returns but they are satisfied that they are getting atleast something from this wasteland herb. Supari (Betel nut) is well known herb part in this region. It is added with popular Pan (Betel vine) leaves, which are used as masticatory. The Farm Workers of Jashpur region use the Supari as medicine also. In treatment of rheumatism, they use Supari in combination with Amla (Tamarind) fruit extract. Supari is dipped in water overnight and next morning it is crushed into fine paste. In this paste, Amla fruit extract is added. The combination is taken internally with lukewarm water. It is considered as one of the promising treatments. The traditional healers of Jashpur region are also aware of this use. They informed that in long term this combination gives promising results. In treatment of skin related troubles, the Farm Workers use the bark of Supari tree. The freshly collected bark is boiled in Til (Sesame seed) oil and when all watery contents evaporate, the boiling is stopped and oil is kept for future use. This special oil is applied on affected parts. I have observed that many Farm Workers sell this special herbal oil to the herb vendors without disclosing its ingredients. During interaction, the Farm Workers informed about many uses of Limau Beeja (Lemon seeds). In treatment of Pathri (Renal Calculi), the Farm Workers use the combination of Limau seeds with rock salt but as other promising alternatives are available it is used less commonly. To nullify the harmful effects of alcohol, many Farm Workers take the powdered seeds internally. The senior Farm Workers informed that in early days they were using Semar roots (*Bombax ceiba*) in combination with Limau seeds in treatment of gynaecological troubles.

During the interaction, the Farm Workers extended their full support. They also showed interest in on-going documentation work. They informed that they are trying their best to educate the rural youths about the traditional knowledge and its importance. It is good sign.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Workers of Khairagarh region.

Through the interactions with the Farm Workers of Khairagarh region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region have in depth traditional medicinal knowledge about medicinal uses and properties of Mehndi (*Lawsonia alba*). In treatment of Sujak (Gonorrhoea), they use the leaf juice of Mehndi. The juice is taken in many ways. As popular way, the juice is taken internally in combination with water and sugar, in form of Shurbut, but the traditional healers of this region consider its use with cow milk more promising. The healers informed that the leaf juice of Mehndi can be used as supplement treatment to main treatment. In treatment of burns, as first aid remedy, the Farm Workers use the Mehndi leaves. The leaves are boiled in water and decoction is prepared. This decoction is applied on burns. Many times softened leaves collected after boiling are also applied in form of paste. This use is very common among them. The senior Farm Workers of Khairagarh region informed that Mehndi leaf juice is having the capacity to reduce extra heat from human body. They suggest the farm workers of young generation to take Mehndi leaf juice in any form upto one month in any part of the year, in order to maintain the heat balance round the year and to avoid related troubles. In general, they suggest the combination of Mehndi leaf juice and cow milk in equal proportion. For taste sugar can be added in this combination. I have tried this combination as per their suggestions and found it really promising. I personally feel that there is a need to popularize this combination in whole world. In treatment of Dysentery, the Farm Workers use the seeds of Mehndi. The seeds are converted into fine powder and dipped in cow ghee upto one month. After this period, the combination is given a shape of small globules. In case of need, these globules are given internally. According to them, in few doses globules cure the trouble effectively in very less time. I have mentioned in previous articles that the natives and traditional healers of many parts of

Chhattisgarh use the leaf juice of Mehndi externally in treatment of Daad (Ringworm). The Farm workers of Khairagarh region are not only aware of this use but they are also using it. The senior Farm Workers informed that in early days to avoid the harmful effects of small pox, on eyes, they were using the leaf juice of Mehndi leaves, in form of massage on soles. They informed that this use is not in existence now a days. They further informed that the leaf juice of Mehndi is beneficial for nails. This was new information for me. Later, the traditional healers of this region confirmed that the regular massage of leaf juice gives shining and good texture to the nails. During interaction, the Farm Workers informed many medicinal uses of Agasti (*Sesbania grandiflora*). In treatment of swellings they use the roots of Dhatra (*Datura stramonium*) and Agasti in form of aqueous paste. The paste is applied externally on swellings. Agasti and Dhatra are well known herbs in this part of Chhattisgarh. The senior Farm Workers informed that the root bark of Agasti can be used in small doses in treatment of rheumatic pain, but this use is not much popular among them.

The in depth traditional medicinal knowledge about Mehndi plant parts, the Farm Workers of Khairagarh region are having, is the matter of appreciation. Most of these traditional medicinal uses have yet not been reported in reference literatures. This traditional knowledge is saving the cost of medical expenses of the Farm Workers to the great extent. This is good sign.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Tilda region.**

Through the interactions with the Farm Workers of Tilda region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In treatment of skin related troubles the Farm Workers of Tilda region use many herbs and herbal combinations. During interaction they informed about special herbal oil prepared by boiling Dhawai phool (*Woodfordia fruticosa* flowers) and whole herb of Jwasa (*Alhagi camelorum*), in base oil. As base oil, Sarson (Mustard seed) oil is used. When all watery contents evaporate the boiling is stopped and oil is kept for future use. The special oil is applied externally on affected parts. This special oil is considered as promising remedy for all skin related troubles. This oil is very popular among them. The traditional healers of Tilda region, aware of this oil, confirmed its promising effects. I have noted during the survey that many Farm Workers sell this special herbal oil to the herb vendors without disclosing the secret formulation. Both Dhawai and Jwasa are commonly available medicinal herbs. The Farm Workers use Dhawai phool in other troubles also. During dentition in small children, the Farm Workers mix the Dhawai Phool, Pippali (*Piper longum*) and Aonla (*Embllica officinalis*) fruit juice and apply the combination in painful spots. It is considered as one of the simple but promising home remedies. Many senior Farm Workers informed that Dhawai plant parts can be used successfully in treatment of Dysmenorrhoea. The decoction prepared by boiling Dhawai flowers is taken internally many times a day. They also recommend the use of Dhawai leaf juice in combination with sugar. The decoction is considered more promising. The use is continued till complete cure. In treatment of common headache the Farm Workers of Tilda region use the roots of Dikamali (*Gardenia gummifera*). The roots are crushed and an aqueous paste is prepared. This paste is applied externally on painful parts. According to them that at initial stages of Adhasisi (Migraine), this paste gives promising results. The traditional healers of this region are aware of this use. They confirmed its promising effects and suggested that in treatment of Migraine, the combination of Dikamali and Bharangi (*Clerodendron* sp.) roots gives more promising results. The combination of roots is applied in form of aqueous paste. I have informed the Farm Workers about the healers comment. The senior Farm Workers informed me that the combination of Dikamali roots with Reetha (*Sapindus emarginatus*) can be used in treatment of snake bite. The aqueous extracts of Dikamali roots and Reetha fruits are mixed and taken internally as treatment. It is considered as one of the promising first aid measures and practiced till the arrival of the traditional healers for the systematic treatment. The Farm Workers of this region use Agasti (*Sesbania grandiflora*) plant parts very commonly as medicine. In treatment of mental troubles, they extract the juice from its leaves and in combination with Gud (Jaggery), Piper and Sonth (Dried ginger), a solution is prepared. Few drops of this solution is applied into the nostrils as treatment. It is considered as beneficial solution for brain. Many workers use it in treatment of Mirgi (Epilepsy). In treatment of common cough and cold, they simply apply the leaf juice of Agasti into the nostrils.

I have observed during the survey that the Farm Workers of this region are more aware of herbs present in surroundings than the herbs present as weed in crop fields where they invest majority of their day time job. From documentation point of view, every information is important.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 195. Koha ke Halwa I.

Koha (*Terminalia arjuna*) is a tree occurring throughout the greater part of India. It is also grown as an avenue tree. It is a well known tree in Chhattisgarh. The natives and traditional healers are well aware of medicinal properties and uses of Koha plants parts. Koha Ke Halwa is a sweet dish prepared by different methods. In present article, I am describing the method popularly used by the traditional healers of Northern Chhattisgarh. Although this sweet preparation is considered promising in treatment of heart troubles but the traditional healers of this region recommend it specially to the patients having the problem of Adhasisi (Migraine). The natives are not much aware of this preparation.

Material Required: Koha bark and leaf juice, Ata (Wheat flour), Sugar and Cow ghee.

Method of Preparation: In pan, Koha bark in powder form, Ata and cow ghee are taken. The pan is kept on fire. After slight roasting, Koha leaf juice is added in pan and the combination is roasted well till the watery contents evaporate completely. Sugar syrup (Chashni) is added in the roasted mixture and Halwa is prepared. In general Koha bark, cow ghee and Koha leaf juice are added in 1:4:16 ratio. The healers suggest the patients having Migraine to take this preparation once in a week as supplement treatment to main treatment.

For the botany, traditional and reported medicinal uses of Koha, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 194. Lason Ke Murabba.

Lason is a local name of Garlic (*Allium sativum*). It is well known herb in Chhattisgarh. It is frequently used as home remedy. Its bulbs are used as condiment and flavouring substance. Lason ke Murabba is prepared by using its bulbs. For the first time I got information about this preparation from the traditional healers of Pendra region. This preparation is not much popular among the common natives. The traditional healers of Pendra region recommend it to the patients having the problem of Gout. It is considered as a boon for such patients. I got opportunities to interact with the patients getting relief from this preparation. I personally feel that there is a need to popularize this preparation among the Gout patients around the world as Garlic (Lason) and Gout both are common in whole world.

Material Required: Lason buds and Sugar.

Method of Preparation: Lason Kali (buds or clove) are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The boiled cloves are added in hot chashni to prepare the Murabba. Once prepared in bulk, it is used round the year.

For the botany, traditional and reported medicinal uses of Lason, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 193. Koha Chhali ke Kheer.

Koha is a local name of medicinal tree *Terminalia arjuna*. It is well known tree in Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about different uses of Koha. Koha Chhali Ke Kheer is a sweet preparation, prepared by using Koha bark. This preparation is not much popular among the common natives. The traditional healers recommend it as medicine. They are aware of its health benefits. The patients having heart related troubles are advised by the healers to consume this dish once in a week. According to the healers, this preparation acts as supplement treatment to main treatment. The traditional healers of Southern Chhattisgarh recommend it to the patients having liver related troubles.

Material Required: Koha bark, Chaur (Rice grains), Sugar, Doodh (Cow milk)

Method of Preparation: Like the traditional Kheer prepared by boiling Rice Grains and sugar in cow milk, this Kheer is prepared but before boiling fine powder of Koha bark is also added. The Kheer is served during meals. Many times the healers suggest its consumption in empty stomach also.

For the botany, traditional and reported medicinal uses of Koha please read my previous articles.

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Traditional medicinal uses of common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Dongargarh region.

Through the interactions with the Farm Workers of Dongargarh region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Koha (*Terminalia arjuna*) is well known tree in this part of Chhattisgarh. Besides its use as heart tonic and other related troubles, the Farm Workers of Dongargarh region are aware of many promising medicinal uses and properties of Koha plant parts. In treatment of Dysentery, the Farm Workers use the bark of Koha. The powdered bark is given internally in combination with cow milk as treatment. In face care, the same combination is applied externally on face. According to them, its regular use acts effectively against pimples and also removes black spots. This use is popular among the Farm Workers of young generation. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the leaf juice of Arusa (*Adhatoda vasica*) in treatment of troubles related to respiratory system. The Farm Workers of Dongargarh region are also aware of this use, but for more promising effects they add powdered bark of Koha with Arusa leaf juice. The senior Farm Workers informed that the powdered bark of Koha can be used alone in treatment of old fevers. In general, they

recommend the regular use of Koha bark with cow milk and Gud (Jaggery) in order to get beneficial health effects and to protect the body from new diseases. The traditional healers of this region are not in favour of using Koha bark upto very long time. They suggested that it can be used upto one month after a break of atleast four months. I have informed the senior Farm Workers about the healer's comments. As the demand of Koha bark is very high in national and international markets and also the natives of Chhattisgarh have rich traditional medicinal knowledge about its uses, these utilization and collection are posing threat on natural population of this tree. This is the reason we are loosing many trees. The Farm Workers are aware of this potential threat. They claimed that the local people have right to harvest it but the harvest must be non-destructive. They blamed the herb collectors and traders of young generation for destructive collection of bark. The senior Farm Workers informed me about many uses of Kuchla seeds and fruits (*Strychnos nuxvomica*). In treatment of boils, the senior Farm Workers use the seeds of Kuchla in form of aqueous paste but as other promising alternatives are available it is used less commonly. They informed that in early days they were extracting the oil from Kuchla seeds using Patal-Yantra (For more details about Patal-Yantra, please read my previous articles). This oil was considered as one of the promising treatments of all types of pain.

The in depth traditional medicinal knowledge about Koha plant parts, the Farm Workers of Dongargarh region are having, is a matter of appreciation. The great observation is that the Farm Workers aware of decreasing population of Koha trees and giving emphasis on its non-destructive harvesting.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Raipur region.**

Through the interactions with the Farm Workers of Raipur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region have in depth traditional knowledge about different medicinal uses of Indra Jau (*Wrightia tinctoria*). They use this medicinal herb both internally as well as externally in treatment of many common troubles. I am giving some promising uses and its details. In treatment of troubles related to urinary system, the Farm Workers use the bark of Indra Jau. The bark is collected and after shade drying converted into fine powder. This powder is taken internally with lukewarm cow milk. The traditional healers of Raipur region are also aware of this use. They informed that this combination can be used in complicated cases also with good success rate. In treatment of old fevers, the Farm Workers take the bark of Indrajau in combination with Giloi (*Tinospora cordifolia*) bark. Both barks are boiled and decoction is prepared. The decoction is given internally many times a day. The use is continued till complete cure. Every day fresh decoction is prepared. The Farm Workers emphasized that this combination must be used in case of old fever only. Normal fever can be treated successfully with either Indrajau or Giloi bark decoction. Giloi is well known herb of medicinal importance in this part of Chhattisgarh. In simple case of Intestinal worms, the Farm Workers use the aqueous extract of Indrajau internally whereas in complicated case they take the aqueous extract in combination with Baibirang (*Embelia ribes*). According to them, few doses of this combination flush out the worms effectively in very less time. Baibirang is a well known non-wood forest produce of Chhattisgarh. Many senior Farm Workers informed that in early days they were using the combination of Indrajau and Andi (*Ricinus communis*) root extracts internally in treatment of Haija (Cholera). This use is not much popular now a days but from documentation point of view, it is an important information. Limau (Lemon) is well known fruit tree in this part of Chhattisgarh. During interaction the Farm Workers informed about many less known uses of Limau plant parts. They burn the whole fruit of Limau and collect the ash. This ash is taken internally in combination with Shahad (Honey) many times a day. It is considered as one of the promising treatments in treatment of Hichki (Hiccough). It is also considered useful in treatment of vomiting and vomiting sensation. In treatment of Dysuria, the seeds of Limau are used. The seeds are dried and converted into powder. This powder is filled in Boddi (Umbilicus) and few drops of Mattha (Whey) are applied. According to the Farm Worker, this simple treatment helps the patients to get rid from this trouble in very less time. The traditional healers of Raipur region, aware of these promising uses of Limau confirmed its promising effects.

As mentioned above, the natural forests of Raipur region are rich in wild population of Indra Jau. Many Farm Workers aware of its local demand, collect its plant parts and by selling it to the traders, earn an additional income. They informed that no one has never asked them about their traditional knowledge. It seems that this valuable knowledge is coming among the world community for the first time.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 192. Amra Ke Murabba.

According to the reference literatures, Amra (*Spondias pinnata*) is a small, aromatic tree occurring almost all parts of India including Chhattisgarh. In Chhattisgarh it is planted for its edible fruits. It also grows in wild. Its bark is used as tan and wood for packing-cases, tea-chests, canoes or boats. Amra Ke Murabba is prepared by using its fruits. The senior natives and traditional healers of Chhattisgarh specially recommend this preparation the patients having gynaecological troubles. According to the traditional healers, the Murabba of Amra fruit is having the capacity to stop all types of bleeding both internal as well as external. Many healers consider it as useful tonic and recommend it to the patients recovering from exhaustive diseases.

Material Required: Amra fruits, and Sugar.

Method of Preparation: Amra fruits are boiled in water. Separately sugar is boiled in water to prepare the Chashni (Syrup). The boiled fruits are added in hot chashni. The combination is known as Amra Ke Murabba. Once prepared in bulk, it is used round the year as per recommendations of the traditional healers.

For the botany, traditional and reported medicinal uses of Amra, please read my previous articles.

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Herbal dishes of Chhattisgarh, India. 191. Amra Ke Chutney.

Amra is a local name of Spondias pinnata. Amra is a small aromatic tree occurring wild or grown throughout the India for its edible fruits. Amra Ke Chutney is prepared by using its fruits. This Chutney is very popular among the natives but they are not much aware of health benefits of this preparation. The traditional healers of Chhattisgarh consider this Chutney as a boon for the patients having digestive system related troubles. Many healers consider it as promising blood purifier and this is the reason it is specially recommended to the patients having skin related troubles.

Material Required: Amra Fruits, Lason (Garlic), Namak (Salt), Masale (Spices).

Method of Preparation: Amra fruits and all other ingredients are mixed and with the help of stone, crushed into fine paste. This paste is known as Amra Ke Chutney. This Chutney is served with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Amra please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 180. Amra (*Spondias mangifera*, family *Anacardiaceae*).

Although it is mentioned in reference literatures related to flora that Amra is under cultivation or it is planted in Chhattisgarh, but during my surveys I have seen it in wild also. The natives and traditional healers of the state are aware of its natural occurrence. The reference literatures related to different systems of medicine in India are full of information regarding medicinal uses and properties of Amra but the traditional healers of Chhattisgarh are not much aware of its medicinal uses. According to Ayurveda, its bark, leaves and fruits can be used as medicine but the traditional healers of Chhattisgarh also use its roots. In Ayurveda it is mentioned that the leaves are tasty, appetizing, astringent, whereas the fruit is indigestible, enriches blood, cures rheumatism, biliousness, ulcers, burning sensation, phthisis, blood complaints, good for sore-throat, refrigerant, tonic, aphrodisiac and astringent to the bowels. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of Amra plant parts. The traditional healers of Southern Chhattisgarh use its roots in complicated cases of Bavasir (Piles) both internally as well as externally. Internally it is taken in form of decoction whereas externally the decoction is prepared by boiling its roots in water and the patients are advised to wash the anus with this decoction. The roots are also added in popular herbal combinations used in treatment of Carbuncle. The traditional healers of Chhattisgarh Plains use the bark of Amra in treatment of rheumatic pain. The bark is collected and dried in shade. After drying it is boiled in water and the patients having

rheumatic pain are advised to expose the painful parts in medicated vapour. It is considered as one of the promising treatments. The dry leaves of Amra are used by the traditional healers of Bagbahera region in treatment of Mirgi (Epilepsy). The leaves are burnt and patients are advised to inhale the fumes. It is used as preventive and curative to attack. The traditional healers of Gandai-Salewara region prepare a special herbal oil by boiling the leaves in base oil. As base oil Til (Sesame seed) oil is used. This special oil is used externally in treatment of Urticaria.

According to the reference literatures, botanically Amra (*Spondias mangifera* syn. *S. pinnata*; *Mangifera pinnata*; *S. acuminata*) is a tree with straight trunk; Bark smooth, ash-coloured; Branches nearly horizontal; Leaves alternate imparipinnate, 30-45 cm long; leaflets 3-5 pairs, oblong, entire, oblique, strong intra marginal nerve joining horizontal straight nerves; Flower one or two sexual in terminal panicles, pinkish green; Fruits drupe, ovoid, yellow; Stone woody, hard, round with furrows and cavities; Seeds usually one.

Officially the names of Amra plant parts are not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders informed that Amra is in trade and its plant parts are collected from wild in bulk. The present collection is not causing any threat on its natural population. The collection of roots can cause a threat but at present, only the herb vendors are collecting it for the traditional healers.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Gariaband region.**

Through the interactions with the Farm Workers of Gariaband region, rich in natural biodiversity, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region informed about many unique medicinal uses of well known tree Sagaun (*Tectona grandis*). In case of snake bite, as first aid measure they use the roots of Sagaun both internally as well as externally. Internally the aqueous extract of root is taken whereas externally the aqueous paste of root is applied on affected parts. The traditional healers of Gariaband region are also aware of this use. They confirmed the usefulness of Sagaun roots as first aid measure. In treatment of Filaria, the Farm Workers use the bark of Sagaun. The bark is boiled in water and decoction is prepared. In this decoction cow urine is added and taken internally. It is used as supplement treatment to main treatment. The barks collected from very old trees are considered more promising. The Farm Workers use different plant parts of Sagaun very commonly in treatment of Chhapaki (Urticaria). On red blisters, they apply a special herbal oil prepared by boiling a fine piece of old blanket (Woolen blanket) and dry leaves of Sagaun in base oil. As base oil, Til (Sesame seed) oil is used. The oil is applied externally on affected parts. The special oil is also prepared by another method. In this method, the dry leaves of Sagaun and a piece of blanket are burnt and ash is collected. This ash is added in base oil. The combination is used in same manner. The oil prepared from first method is considered more promising. The traditional healers of this region suggested another way of utilizing Sagaun leaves. In this way, the leaves are crushed to extract the juice. The concentrated juice is applied on blisters as treatment. I have informed the Farm Workers about the use suggested by the traditional healers. In general, the Farm Workers having the problem of Urticaria boil the leaves of Sagaun and prepare a decoction. This decoction is used during bath in order to wash the body. According to them the regular use of this decoction during bath helps in treatment of Urticaria. Their in depth traditional medicinal knowledge is a matter of appreciation. I was not expecting this valuable information from the Farm Workers. Although Kaiphal (*Myrica esculenta*) is not a tree that grows naturally in forests of Gariaband region but the Farm Workers of this region are not only aware of its traditional uses but also they are practicing it in their day to day life. They use its bark very commonly in treatment of many common diseases. For bark they are dependent on the herb vendors coming from neighbouring states. In case of burns, as first aid measure, they use the bark of Kaiphal. The aqueous extract of bark is applied on affected parts. It is considered as one of the promising treatments. In treatment of chronic cough, the Farm Workers use the powdered bark in combination with Shahad (Honey) internally. The use is continued till complete cure. As treatment of stomatitis, they use the decoction of Kaiphal bark in form of gargle.

Most of the above mentioned traditional medicinal uses are new information for the world community. I am feeling proud to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Bhanupratappur region.**

Through the interactions with the Farm Workers of Bhanupratappur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region informed about many promising medicinal uses of Kankad tree. Kankad is well known tree in this part of Chhattisgarh. Its scientific name is *Garuga pinnata*. The Farm Workers use the bark of Kankad very commonly. In treatment of wound, they use the bark of Kankad. The bark is collected and dried in shade. After drying it is converted into powder and kept for future use. In case of emergency, they never miss to use it. This powder is also applied in case of injury in order to stop the bleeding immediately. Many senior Farm Workers informed that the leaf juice of Kankad can be used in treatment of Sujak (Gonorrhoea). The juice is given internally in combination with Zeera (Cumin) and Sugar. The traditional healers of Bhanupratappur are also aware of this use. They informed that the juice can be used as supplement treatment to main treatment. Many Farm Workers informed that they collect the bark and sell it to the local herb traders. I have seen the collection procedure adopted by them. This collection is not posing any threat on natural population of Kankad in this region. Like the natives of other parts of Chhattisgarh, the Farm Workers of this region are also aware of many uses of Hing (*Asafoetida*). In general it is used as home remedy. During interaction the Farm Workers informed me about unique uses of Hing. I am giving the details of some promising

combinations. In treatment of old open wounds, the Farm Workers use the combination of Hing and Neem leaf juice. The combination is applied on wounds many times a day. This use is continued till complete cure. This use is very popular among them. Its popularity clearly indicates its effectiveness. Many Farm Workers use the same combination as veterinary medicine. In case of Scorpion sting, as first aid measure the Farm Workers apply the latex of Fudhar (*Calotropis gigantea*) in combination with Hing. They informed that in many cases this simple treatment helps the patients to get rid from Scorpion poison. Fudhar grows as wasteland weed in this part of Chhattisgarh. Many senior Farm Workers informed that in case of fever and vertigo during pregnancy, the Hing can be used successfully in treatment. Hing is roasted with the help of cow ghee and given internally. According to them, it is an age old practice. To nullify the harmful effects of Afeem (Opium), the Farm Workers of Bhanupratappur region use the aqueous solution of Hing. According to them, few doses nullify the effects in promising way. Many of the above mentioned traditional medicinal uses regarding Hing have yet not been reported in reference literatures. The traditional healers of Bhanupratappur region also showed ignorance to these uses. As traditional knowledge, the Farm Workers have not only conserved the knowledge but also they are utilizing it in their routine life.

During interaction, the Farm Workers informed that they are aware of many medicinal insects and mites. I promised them to visit the region again with enough time to collect the insects and mites from its natural habitat and to document the traditional medicinal knowledge about it.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Workers of Bhopalpatnam region.

Bhopalpatnam region of Chhattisgarh is rich in natural biodiversity. This is the reason, the Farm Workers of this region are aware of many promising medicinal uses of common herbs present in surroundings. In present article I am giving the details of interactions with them.

The Farm Workers of this region are aware of many promising medicinal uses of Lasoora (*Cordia dichotoma*). Lasoora is well known tree popular for its fruits which are eaten either raw or pickled. In treatment of Diarrhoea, the Farm Workers use the bark of Lasoora. The aqueous extract of bark is taken internally many times a day. The use is continued till complete cure. In treatment of Stomatitis and other mouth related troubles they use the decoction of its bark in form of gargle. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh prepare special sweat dish using dry fruit powder of Lasoora and use it as promising tonic. The Farm Workers of Bhopalpatnam region are also aware of this use. The senior Farm Workers informed that the powdered bark of Lasoora can be used in combination with other herbs as promising blood purifier. The traditional healers of this region are aware of these uses. They confirmed its promising effects. Like Lasoora, Bakain (*Melia azedarach*) is also a well known tree in this part of Chhattisgarh. In case of dog bite, as first aid measure, the Farm Workers use the juice of freshly collected roots. The treatment is continued till the arrival of the traditional healers. After their arrival, the healers start the systematic treatment. The Farm Workers as well as the traditional healers are satisfied with its use as first aid measure. In treatment of sciatica, the Farm Workers consider the aqueous extract of Bakain bark very promising. The extract is given once in a day internally. The use is continued till complete cure. The traditional healers suggested that the juice of Bakain bark and roots mixed in equal proportion give more promising results. The senior Farm Workers informed that the fruits of Bakain can be used in treatment of Sujak (Gonorrhoea). The fruits are crushed and mixed with Rice water. Cow ghee is added in this combination and taken internally as treatment. The traditional healers of Bhopalpatnam region, aware of this use, consider it as promising supplement treatment to main treatment. The Farm Workers are also aware of use of Bakain fruit pulp in treatment of eye related troubles. The fruit pulp is kept on lids of painful eyes externally as treatment. This use is not much common among them. The Farm Workers use the bark of another medicinal tree Ain (*Terminalia alata*) in treatment of many common troubles. The bark is burnt and ash is collected. According to the Farm Workers the nature of this ash is hot and when applied on paralyzed parts, it helps in cure effectively in very less time. You will be surprised to know that the traditional healers of this region were not aware of this use. When I informed them, they tried and found it effective. They thanked the Farm Workers. The Farm Workers also use this ash internally in treatment of troubles related to respiratory system.

During interaction, the Farm Workers showed me many rare and unidentified herbs and informed me about its unique uses. I am in process of the correct identification of these herbs. I will give you the details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Workers of Dondi-Lohara region.

Through the interactions with the Farm Workers of Dondi-Lohara region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many medicinal uses and properties of Doomar (*Ficus glomerata*). Doomar is well known tree of religious and medicinal importance. In treatment of immature boil, they use the latex of Doomar. The freshly collected latex is applied on immature boils. According to them, by absorbing the heat of boils, the latex suppresses it effectively. In treatment of vomiting, common during pregnancy, the Farm Workers suggest the patients to take the aqueous extract of Doomar roots internally. The traditional healers of Dondi-Lohara are also aware of this use. They informed that the aqueous extract of roots can also be used in treatment of diarrhea during pregnancy period. I have informed the Farm Workers about the healer's comment. In treatment of scorpion sting, as first aid measure the Farm Workers apply the new sprouts of Doomar externally. Like Doomar, Khamhar (*Gmelina arborea*) is also well known tree. In treatment of all types of pain, the senior Farm Workers of Dondi-Lohara consider it very promising. The leaf juice in combination with Kali Mirch (*Piper nigrum*) powder and Til (Sesame seed) oil is taken internally. According to the senior Farm Workers, this combination is a boon for the patients having the Adhasisi (Migraine). The traditional healers of

this region are not much aware of this use. In treatment of common headache, the juice of its leaves is used externally by the Farm Workers. They informed that both internal as well as external uses at a time cure the trouble effectively in very less time. After completion of the systematic treatment of snake bite, to nullify the residual effect of poison, the senior Farm Workers of this region use Sirsa flowers in unique way. By crushing the flowers, juice is extracted. In this juice Kali Mirch (*Piper nigrum*) is added and the combination is mixed thoroughly. After mixing the combination is taken internally and also applied into the eyes. The use is continued till complete cure. Many times, the use is continued upto one year but they consider it very essential because the residual amount of poison can cause great disturbance in day to day life. When informed the traditional healers about this combination, they showed surprise by understanding the in depth traditional knowledge, the Farm Workers are having, and confirmed its promising effects. The Farm Workers informed that in treatment of Dysmenorrhoea, the aqueous extract of Sirsa Chhali (bark) can be used. The extract and cow ghee are mixed in equal proportion and taken internally. It is considered as one of the promising treatments. The senior Farm Workers informed that the same combination can be used externally in treatment of Erysipelas. The scientific name of Sirsa is *Albizia lebbek*. It is well known tree in this region.

Many of the above mentioned traditional uses have yet not been reported in reference literatures. The Farm Workers are not only aware of these uses but also they are utilizing the traditional knowledge in their day to day life. This is good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 177. Soltraj (*Cyanotis axillaris*, family Commelinaceae).

Cyanotis is a well known herb for the Rice Farmers of Chhattisgarh region. It grows as field weed in rice fields. Soltraj is its Hindi name. In Chhattisgarh, in most of the parts the farmers have kept it in the category of Van Kachra (Wild waste). In many parts it is known as Van Kaua-Kaini. The true Kaua-Kaini is *Commelina benghalensis*. Although this is a common herb in the state but the traditional healers are not much aware of its medicinal properties and uses. During field workers, when the farmers get injuries, in order to stop bleeding they use many herbs. The name of Cyanotis is present in the list of such herbs used by the Rice farmers of Chhattisgarh Plains. In general, the weeds growing in waterlogged or submerged rice fields are considered promising in reducing the body heat if applied externally. The traditional healers of Chhattisgarh use the whole herb of Cyanotis in treatment of immature boil externally to suppress it, by absorbing its heat. I am not aware that upto what extent the explanation of healers is correct scientifically, but this use is very popular among them. The traditional healers of Southern Chhattisgarh boil the whole herb of Cyanotis in base oil to prepare a special herbal oil. When all watery contents evaporate the boiling is stopped and oil is used in treatment of skin related troubles. As base oil of Sarson (Mustard seed) oil is used. The traditional healers of Gandai-Salewara region add the whole herb in popular herbal combinations used in treatment of liver related troubles. It is also used in form of decoction but as other promising alternatives are available it is used less commonly. The traditional healers of Nagri-Sihawa region are aware of its use in treatment of common fever. The above mentioned traditional medicinal uses have yet not been reported in reference literatures.

Officially, the name of Cyanotis is not present in the list of medicine herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. Although the traditional medicinal uses of Cyanotis are not enough to establish it as potential medicinal herb in Chhattisgarh but I am trying my best to gather more information on its utilisation aspect and to develop its new uses in commercial farming of medicinal and aromatic crops. You will find the details in coming article.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Charama region.**

Through the interactions with the Farm Workers of Charama region, I have collected many valuable information on traditional medicinal uses of common herbs. Charama region is rich in natural vegetation and bio-diversity. I am giving the details in present article.

The senior Farm Workers of Charama region informed that the bark of Ama (*Mangifera indica*) can be used in treatment of Syphilitic (Garimi) wounds. The juice of freshly collected bark is used for this purpose. The juice is taken internally with Chheri (Goat) milk as treatment. According to the Farm Workers, this combination helps in reducing the intense pain. The traditional healers of Charama region are aware of this combination. They informed that it can be used as supplement treatment to main treatment. In previous articles I have mentioned that the natives and traditional healers of many parts of Chhattisgarh use the roots of common weed Chirchita (*Achyranthes aspera*) in treatment of common fever in unique way. The root piece is tied around the wrist with the help of red string. This use is very popular among them. The Farm Workers of Charama region informed about the use of Ama roots for the same purpose. The roots are tied with the help of red string either on wrist or around the neck. They have deep faith in this traditional use. Although they are unable to give the scientific explanation regarding the mode of action of the roots applied in this way but their deep faith is enough to explain its promising effects. For the traditional healers of Charama region, this was new information. Later they tried and found it really effective. The Ama roots are also used internally in treatment of fever. The senior Farm Workers of Charama region use the roots of Fudhar (*Calotropis gigantea*) to nullify the harmful effects of all types of poison. The aqueous extract of old roots is used internally for this purpose. The traditional healers of Charama region, aware of this use, informed that its leaves can also be used for the same purpose. The leaf juice is given internally in combination with cow ghee. The Farm Workers popularly use it as first aid measure in treatment of snake bite. In case of other poisons, they approach to the traditional healers for systematic treatment. Fudhar grows as wasteland weed in this region. The Farm workers have in depth traditional medicinal knowledge about different uses of this so called weed. The natural forests of Charama region are rich in wild population of Aonla (*Emblica officinalis*). Living with this tree since generations, the Farm Workers have discovered its many medicinal uses. They informed me about unique uses of Aonla plant parts. In treatment of liver related troubles, they use the dry fruit powder of Aonla in combination with cow ghee and sugar. This simple combination acts promisingly as supplement treatment to main treatment. In case of vaginal pain the Farm Workers suggest their female partners to take Aonla fruit juice in combination with sugar internally. They do not prefer the fruits of cultivated species of Aonla.

The Farm Workers of Charama region are aware of demand of medicinal weeds at local markets. They collect the weeds and sell it at local markets. Although they are not getting good

returns but they are satisfied that they are getting something from the herbs growing spontaneously in crop fields.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Kavardha region.**

Through the interactions with the Farm Workers of Kavardha region, I have collected many valuable information on traditional medicinal uses of common herbs, I am giving the details in present article.

The Farm Workers of this region are aware of many medicinal properties and uses of Amlī (Tamarind). In treatment of Pelea (Jaundice), they use the bark of Amlī. The bark is collected and after shade drying, it is burnt and ash is collected. The ash is taken internally in combination with cow urine. The traditional healers of Kavardha region, aware of this use, informed that this combination can be used successfully as supplement treatment to main treatment. The bark is also used in treatment of all types of pain. The shade dried bark is crushed into powder and taken internally with lukewarm water. The Farm Workers informed that the ash of bark can also be used for the same purpose. Many Farm Workers use the powdered bark in treatment of common headache. The bark powder is applied externally on affected parts, but as other promising alternatives are available, they use it less commonly. From documentation point of

view, it is an important information. Although rat bite is not a common trouble in this region, but many senior Farm Workers are aware of herbal combination that can be used to manage the emergency. In this combination, Amli seeds and Dhamasa (*Fagonia arabica*) are mixed in 2:1 ratio and taken daily upto a week. According to them, this combination nullifies the harmful effects of rat poison effectively. You will be surprised to know that the traditional healers of Kavardha region were not aware of this use. When I informed them they tried and found it effective. They thanked the Farm Workers for sharing the valuable traditional knowledge. The Farm Workers are also aware of use of Amli bark in treatment of Dyspepsia. For systematic treatment, they take ash internally with lukewarm water at night before going to sleep. The use is continued till complete cure. According to them, within a week they get rid from this trouble. The consumption of Bhang (*Cannabis sativa*) is common as narcotic in Chhattisgarh. To nullify the harmful effects of Bhang consumption, the Farm Workers use the aqueous extract of Amli fruit. The extract is given internally several times. The traditional healers of Kavardha region confirmed its promising effects. Amli is well known tree of medicinal and religious importance in this part of Chhattisgarh. Ama (*Mangifera indica*) is also a popular tree. In order to reduce the extra heat from human body, the senior Farm Workers use a special herbal combination. In this herbal combination, inner bark of Ama, root bark of Doomar (*Ficus glomerata*) and root of Bar (*Ficus benghalensis*) are mixed in equal proportion and crushed to extract the juice. This juice is taken internally with Zeera (Cumin) and Sugar. The use is continued till complete cure. Every day fresh juice is extracted. This use is very popular among the Farm Workers. Its popularity clearly indicates its efficacy. All ingredients used in this herbal combination are available in surroundings. Hence, the Farm Workers prepare it easily without much expenses. Its use during winter season is avoided.

Most of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. During interaction, the Farm Workers shared knowledge through full co-operation. They also showed interest in information I shared with them about traditional medicinal uses of common herbs popular in other regions of Chhattisgarh.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 189. Kela Patta ke Kheer.

Kela is a local name of Banana. In previous articles of this series I have mentioned that the natives of Chhattisgarh prepare Kheer by boiling rice in milk. In this sweet preparation many herbs and dry fruits are added in order to use it for different purposes. In many parts of Chhattisgarh, Kela fruit pulp is also added in this Kheer, but the use of Kela Patta (i.e. Banana leaves) to prepare Kheer is the information limited to few traditional healers and senior natives. It is not prepared for its delicious taste. The traditional healers of Chhattisgarh recommend this preparation to the female natives having gynaecological troubles. It is considered as a boon for the patients having the problem of Safed pani (Leucorrhoea). I got opportunities to interact with the female natives using this sweet dish as medicine. Their confidence and deep faith in this preparation encouraged me to popularize this traditional dish among the common natives and also among the world community. To prepare this sweet dish, in normal Kheer prepared by boiling rice grains in cow milk, Kela leaves are also added. The leaves are cut into small pieces before addition.

For the botany, traditional and reported medicinal uses of Kela, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 176. Karu (Cucumis prophetarum, family Cucurbitaceae).

Due to the bitter taste of Karu, the natives of Chhattisgarh have named this herb as Karu (means bitter). Karu is a common herb that grows naturally in many parts of Chhattisgarh. The traditional healers and herb collectors are aware of its presence in wild, but it is a matter of surprise that they are not much aware of its medicinal properties and uses. The traditional healers of Chhattisgarh specialized in treatment of different types of cancer use this herb very

commonly in treatment. This observation motivated me to write a separate article on this herb. The healers of different region use different parts of Karu in treatment of cancer and every one have their own explanation about its uses. Shri Vishal Bharat, a well known traditional healer of Bastar region, was using the whole herb of Karu after purification. The purpose of purification was to eliminate the toxic materials from the herb. For purification, he was drying the herb in hot summer and dipping it in salty water. The traditional healer of Dasapal village of Bastar is not in favour of using whole herb. According to him, the roots in small doses can give promising results. The traditional healers of Mudpar village use whole herb except fruits. He is also in favour of using it externally in form of decoction. The healer of Gunderdehi village use the fruits in combination with other herbs in treatment of throat cancer. I personally feel that as these observations show the cancer healing properties of all parts of Karu, now this is our responsibility to explain their science through the systematic scientific research. In reference literatures, the uses of whole plant as purgative and emetic are mentioned. I have yet not found much details regarding this herb in reference literatures related to different systems of medicine in India. Botanically, Karu is a perennial herb with sulcate, brittle and angular stem; Leaves sub-orbicular, almost equally broad, scabrous, margin crisped; male flowers solitary or fasciculate, penduncles filiform; Female flowers with 2-3 cm long penduncles; Fruits echinate, striped green and white.

Officially, the name of Karu is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Rajnandgaon region,**

Through the interactions with the Farm Workers of Rajnandgaon region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of Rajnandgaon region informed me about many unique uses of medicinal tree Kadam (*Anthocephalus cadamba*). They use its bark in many ways in treatment of throat related troubles in small children that results in high fever. The bark is collected and with the help of stone, juice is extracted. This juice is given internally with Zeera (Cumin) and Shahad (Honey). This juice is also applied externally on head and throat. They also boil the bark in water and prepare a decoction. The parents of sick children are advised to use the decoction in place of water during bath. According to the Farm Workers, these multiple uses of Kadam barks cure the troubles effectively in very less time. In treatment of common eye related troubles, they prepare a special combination in which Kadam bark juice, Afeem (Opium), Fitkari (Alum) and Limau Rasa (Lemon Fruit Juice) are added. This combination is converted into aqueous paste and applied on eye lids at night. This combination is very popular among them. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the bark of Kadam in form of decoction in treatment of Stomatitis. The Farm Workers of Rajnandgaon region are also aware of this use. Kadam is well known tree of religious and medicinal importance in Chhattisgarh. Like Kadam, Kaitha (*Feronia elephantum*) is also well known tree in the region. The Farm Workers use its new leaves in treatment of Jaundice. The juice is extracted from leaves and added in cow milk. The solution is boiled and kept for future use. This solution is taken internally daily. The use is continued till complete cure. The traditional healers of Rajnandgaon region are also aware of this use. They informed that this solution can be used as supplement treatment to main treatment. The Farm Workers also use the leaf juice of Kaitha, in combination with Pippali (*Piper longum*) and Shahad (Honey) in treatment of respiratory system related troubles. It is considered very useful for the patients having Asthma. In treatment of trouble of uncontrolled appetite, the Farm Workers use the Fruit Stone of Boir (*Ziziphus* sp.). The fruit stones are dried in shade and converted into powder. This powder is taken internally as treatment. The traditional healers of this region, aware of this use, informed that the aqueous extract of Boir bark can also be used in treatment of this trouble. I have informed about this new use to the Farm Workers. The Farm Workers use the powdered fruit stone of Chirai Jam (*Syzygium cumini*) in form of aqueous paste in treatment of small boils that occurs in hot summer. This use is very popular among them. The senior Farm Workers informed that the matured roots of Tad (*Borassus flabellifer*) can be used in combination with Rice water, internally, in treatment of urinary system related troubles.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. These uses are coming out for the first time through this article.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Workers of Sirpur region.**

Through the interactions with the Farm Women of Sirpur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many medicinal uses and properties of Bar (*Ficus benghalensis*). Bar is well known herb of medicinal and religious importance in this part of Chhattisgarh. In treatment of common eye related troubles they use its Doodh (Latex) in combination with Kapoor (Camphor). The combination is applied into the eyes. In case of complications, they approach to the traditional healers for systematic treatment. This combination is considered useful in treatment of poor eye sight. The Farm Workers suggest the Female partners of issueless couples to take Bar leaves internally. The young leaves are crushed and small globules are prepared. They are advised to take three globules in a day upto a week for promising effects. The traditional healers of Sirpur region are also aware of this use. They confirmed its promising effects. The globules are prepared at the size of Boir (*Ziziphus* sp.) fruits. In treatment of vomiting or vomiting sensation, the Farm Workers use the root juice of Kela (Banana). The juice is taken internally with Shahad (Honey) as treatment. According to the Farm Workers, in most of the cases this combination cures the trouble effectively. Andi (*Ricinus communis*) is well known herb for the Farm Workers. They use its seed oil in treatment of many troubles. In treatment of sciatica, they use seed oil in combination with cow urine internally. The use is continued till complete cure. In treatment of rare trouble of uncontrolled appetite, the

Farm Workers suggest the patients to take Andi seed oil in combination with cow ghee. The seed oil is given with cow milk in treatment of liver related troubles. These combinations are taken as supplement treatment to main treatment. In treatment of hyperacidity, the senior Farm Workers of Sirpur region use the leaves of Bambri (*Acacia nilotica*) tree. The leaves are boiled in water and decoction is prepared. This decoction is taken at morning empty stomach. According to them, its regular use upto a week roots out the trouble. The traditional healers of Sirpur region are also aware of this use. They suggested that the addition of Ama Gond (*Mangifera indica* gum) in this decoction makes it more useful. I have informed the senior Farm Workers about the healer's suggestions. The Farm Workers also use the concentrate decoction of Bambri leaves in combination with Shahad (Honey) externally in treatment of common eye troubles. The combination is applied into the eyes as treatment. It is considered as simple but one of the promising treatments. The leaves are also used in form of aqueous paste. This paste is applied on eye lids in order to remove extra heat from the eyes. Bambri is well known tree and it grows in rice bunds. The Farm Workers use all parts of Bambri for medicinal and other purposes.

I have noted during the interactions that the Farm Workers particularly the workers of young generation are eager to know more about the herbs present in surroundings. They are showing interest in traditional knowledge and ready to transfer it after enriching this knowledge. This is good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 175. Lal-Indrayan (*Trichosanthes palmata*, family Cucurbitaceae).

Although the reference literatures related to different systems of medicine are full of information regarding medical uses and properties of Lal Indrayan but the traditional healers and senior natives are not much aware of its medicinal uses. Lal Indrayan is a common herb found in

almost all parts of Chhattisgarh. Its root and fruits are used as medicine. According to Ayurveda, its fruit is useful in asthma, ear-ache, and ozoena. According to Unani system of medicine, fruit is carminative, purgative, abortifacient, lessens inflammations, cures Adhasisi (Migraine), heat of brain, ophthalmia, leprosy and used in epilepsy, rheumatism etc. The seeds are emetic and good purgative. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on traditional medicinal uses of Lal Indrayan. The traditional healers of Chhattisgarh use its fruits in treatment of stomatitis. The patients are advised by them to gargle with the decoction of its fruit. The traditional healers of Southern Chhattisgarh add its roots as main ingredient in popular combinations used externally to treat the Diabetic Carbuncle. The root is also used as pain killer in form of oil. To prepare the oil, the roots are boiled in base oil and when all watery contents evaporate boiling is stopped and oil is applied externally on painful parts but this oil is not considered suitable for every one as it can cause skin irritation. The traditional healers of Pendra region prepare a special herbal oil from its leaves by adopting above mentioned method. This oil is considered useful in treatment of skin related troubles.

According to the reference literatures, botanically Lal Indrayan (*Trichosanthes palmata* syn. *T. bracteata*) is a large climber often reach to a height of 9 meter; stem robust, woody below; Tendrils 3 cleft; Leaves variable, palmately 3-5 lobed, dark-green above, paler beneath, with dark-coloured glands along with lower side, base cordate, lobes ovate-oblong, dentate or serrate; Flowers male in axillary 5-10 flowers racemes, bracts large; Corolla petals wedge shaped, fringed, white, axillary, female solitary; Fruits globose, red when ripe with ten orange streaks.

Officially, the names of Lal Indrayan plant parts are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders informed that although there is no regular demand but this herb is in trade. It is also used as adulterant to many hi-value herbs.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Nagri-Sihawa region.

Through the interactions with the Farm Workers of Nagri-Sihawa region. I have collected many valuable information on traditional medicinal uses of common herbs and animal parts. I am giving the details in present article.

Although for systematic treatment of Sujak (Gonorrhoea) the Farm Workers of Nagri-Sihawa region approach to the traditional healers but they are aware of many promising uses also. They informed that in treatment of infection in urinary tract, they use common lichen (Kai), collected from the pond. They extract the juice by crushing the lichen and apply it inside the Urethra. According to them, this application gives immense relief from pain. During interaction the Farm Workers informed me about a herbal combination used as sex tonic. In this combination, the seeds of Mokhla (*Asteracantha longifolia*), Kevatch (*Mucuna pruriens*) seeds, Semar Gond (*Bombax ceiba* gum and Kulfa seeds (*Portulacca oleracea*) are mixed in equal proportion. Most of these ingredients are available in plenty in surroundings. In general, they prepare this combination once in bulk and use it round the year as medicine. They prefer its use during winter season. They are aware that by adding costlier herbs they can make the combination more promising but they are satisfied with this simple combination. The traditional healers of Nagri-Sihawa region, aware of this combination, suggest the use of this combination with lukewarm milk but the Farm Workers take it with lukewarm water. I have observed during the survey that many Farm Workers present this herbal combination as wedding gift to newly wed couples. According to them, through this way they are conserving and popularizing the traditional knowledge. This is good sign. Many senior Farm Workers informed that the bark of Koriya (*Wrightia tinctoria*) can be used in treatment of Dysmenorrhoea, a common gynaecological trouble. The bark is collected and dried in shade. After drying it is converted into fine powder. This powder is taken internally with equal amount of sugar. The use is continued till complete cure. You will be surprised to know that very few traditional healers of this region were aware of this simple but promising use. When I informed them, they tried and found it really effective. They thanked the Farm Workers and showed surprise. Koriya is well known tree in this part of Chhattisgarh. I have written a lot about this tree in my previous articles. In treatment

of Syphilic wound, many Farm Workers use a special herbal combination. In this combination Masoor (Lentil) and Chana (Gram) seeds, Supari (Betel nut) and Kattha (Acacia catechu) are mixed in equal proportion. The combination is burnt and ash is collected. The ash is applied externally on wound. The traditional healers of this region consider it as promising supplement treatment to main treatment. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh prepare a special oil by boiling the fruits of Sindoori (*Mallotus philippensis*) in treatment of wounds. The Farm Workers of Nagri-Sihawa are also aware of this use.

Many of the above mentioned traditional medicinal use, have yet not been reported in reference literatures. I am feeling lucky to document this important knowledge through this article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Narharpur region.

Through the interactions with the Farm Workers of Narharpur region I have collected many valuable information on traditional medicinal uses of common herbs and animal parts. I am giving the details in present article.

In treatment of dysentery, the Farm Workers of Narharpur region use many herbs and herbal combinations. They mix the fruit pulp of Bael (*Aegle marmelos*), Kutaj (*Holarrhena antidysenterica*) bark, Saunf (Fennel), Sonth (Dried Ginger) and Harra (*Terminalia chebula*) in

equal proportion and prepare a special herbal combination. In this combination all herb parts are mixed in equal proportion and double amount of sugar is added. As treatment, few pinches of combination are taken internally. It is considered as one of the promising combinations. The natural forests present in surroundings are rich in natural population of almost all the herbs used as ingredients in this herbal combination. This is the reason this combination is prepared without much expenses. The traditional healers of this region are aware of this combination. They confirmed its promising effects but added that Harra fruit must be roasted well in cow ghee, before adding it in herbal combination. I have informed the Farm Workers about this suggestion. Many Farm Workers informed that they use the pods of Sengar in combination with Bhat (Cooked Rice) internally in treatment of Dysentery. Sengar is new name for me. When they informed that they are dependent on herb vendors for Sengar pods, I identified it as the pods of *Prosopis cineraria* that is not a herb found commonly in Chhattisgarh. This is a matter of surprise for me to observe the use of Sengar pods by the Farm Workers of Narharpur region. In order to flush out the intestinal worms the Farm Workers use the horn of bullock. The horn is burnt and ash is collected. This ash is taken internally with Gud (Jaggery) as treatment. The use is continued till complete cure. This use is very popular among them. Its popularity clearly indicates its efficacy. In treatment of Carbuncle, the Farm Workers use the horn of Chheri (Goat) in same way. The ash is applied externally on Carbuncle as sure cure. Both uses were new information for me. The traditional healers of this region are also not much aware of these uses. Many senior Farm Workers informed that in treatment of Kidney pain, the oil prepared from whole herb of *Titlia* can be used. To prepare the oil, the whole herb is boiled in oil and when all watery contents evaporate, boiling is stopped and oil is used for future use. This oil is applied externally on affected parts. *Titlia* (*Launea asplenifolia*) grows as wasteland weed in this part of Chhattisgarh.

Many of the above mentioned traditional medicinal uses specially the uses of animal parts have yet not been reported in reference literatures. It is a matter of appreciation that the Farm Workers are not only aware of this use but they are also practicing it in treatment of many common diseases.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 179. Pilkhan (*Ficus lucescens*, family Moraceae).

According to the reference literatures, Pilkhan is a tree occurring in many parts of India. It is also planted as avenue tree. It serves as host for the summer brood of Lac insect. Its Sanskrit name is Plaksha. The natural forests of Chhattisgarh are rich in wild population of Pilkhan. The traditional healers of the state are aware of its natural presence but they are not using it as popular medicinal herb. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of Pilkhan. The traditional healers use its bark very commonly. In treatment of Stomatitis, the patients are advised to boil the bark in water and gargle with the decoction. It is considered as one of the promising treatments. The female patients having the problem of Safed pani (Leucorrhoea) are advised by the healers to wash the vagina with this decoction. The traditional healers of Gandai-Salewara region are aware of use of the aqueous extract of Pilkhan roots internally in treatment of dysentery, but as other promising alternatives are available it is used less commonly. From documentation point of view it is an important information. To nullify the harmful effects of poison, as first aid measure the traditional healers of Bagbahera region use the powdered bark of Pilkhan in combination with other herbs. These traditional medicinal uses have yet not been reported in reference literatures.

Officially, the name of Pilkhan plant parts are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but many herb collectors informed that they collect its bark and roots (rarely) on specific demand of the traders.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Dalli-Rajhara region.**

Through the interactions with the Farm Workers of Dalli-Rajhara region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers particularly the senior Farm Workers of this region are well aware of many promising medicinal uses and properties of Baibirang (*Embelia ribes*). In treatment of constipation, they use Baibirang in combination with Ajwain (*Carum copticum*). The combination is taken internally at night with lukewarm water. According to them, within few days they get rid from the problem of chronic constipation. Many times small children fail to digest milk in any form. In Homoeopathic system of medicine we use *Aethusa* for this purpose. The Farm Workers of Dalli-Rajhara region sue Baibirang for this purpose. The Baibirang is boiled in milk and milk is given to the children. This boiling helps in proper digestion of milk. The traditional healers of this region are also aware of this simple but promising use. They confirmed its usefulness. I have mentioned in previous articles that the natives traveling very frequently, always keep Piaz (Onion bulb) with them and never miss to consume it during meals. According to them, the intake of Piaz helps in nullifying the harmful effects due to change of water, weather etc. When I informed this information to the Farm Workers of Dalli-Rajhara region they replied that Baibirang can also be used for this purpose particularly to nullify the effects of water. They mix the Baibirang fruits in drinking water. This use is very popular among them. Its popularity clearly indicates its efficacy. The senior Farm Workers informed that Tulsi leaves (*Ocimum sanctum*) can also be used for the same purpose. The natural forests of this region are rich in wild population of Baibirang. Baibirang is one of the well known non-wood forest produces of Chhattisgarh. Like Baibirang, Harra is also well known medicinal tree in this region. The Farm Workers are aware of its use alone and in combination with other herbs in treatment of many trouble. In treatment of Malarial fever, they use the combination of Harra (*Terminalia chebula*) and Indraraju (*Wrightia tinctoria*). Both ingredients are mixed and given a shape of small globules. Gud (Jaggery) is also added in it. The globules are taken internally many times a day. The use is continued till complete cure. The traditional healers of this region confirmed its promising effects. In treatment of Diarrhoea, the senior Farm Workers use another Harra based herbal combination. In this combination Harra fruit powder, Sonth (Dried Ginger), Gondla (*Cyperus* sp.) and Gud are mixed in equal proportion. The combination is given a shape of small globules. These globules are taken internally. The traditional healers suggested the addition of more herbs in this herbal combination to make it more promising, but senior Farm Workers are satisfied with the existing combination.

The in depth traditional knowledge about different medicinal uses of Baibirang and Harra, the Farm Workers of Dalli-Rajhara are having is a matter of appreciation. Most of the above mentioned traditional medicinal uses have yet not been reported.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Workers of Ambikapur region.**

Through the interactions with the Farm Workers of Ambikapur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of Ambikapur region are aware of many medicinal uses and properties of Munga (*Moringa oleifera*). They use its all plant parts as medicine both internally as well as externally. In treatment of common headache, they use the seeds of Munga. The aqueous extract of seed is collected and applied into the nostrils as treatments. It is considered as one of the promising treatments. The traditional healers of Ambikapur region are also aware of this use. They informed that the seed extract can also be used in same way in treatment of Adhasisi (Migraine). The natives particularly the female natives having the problem of sterility are suggested by the Farm Workers to use the bark of Munga. The bark is boiled in water in combination with Pippali (*Piper longum*) and Kali Mirch (*Piper nigrum*) and decoction is prepared. This decoction is taken internally once in a day. According to the Farm Workers the long term use gives desirable effects. Every day fresh decoction is prepared. The bark collected from old trees are considered suitable to prepare the decoction. After collection the bark is dried in shade. The sun dried bark is not preferred. The Farm Workers informed that these precautions are the part of their traditional knowledge and this is the reason, they are following it with deep faith. In treatment of Sujak (Gonorrhoea), the senior Farm Workers of this region use the Gond (Gum) of Munga tree. Gond exudates from stem. Initially its colour is white and it is in liquid form but after drying it takes reddish brown colour and becomes hard. The pieces of Gond are roasted well in ghee and taken internally. Cow ghee is preferred. They claim that at initial stages this use can cure the Sujak effectively in very less time. The traditional healers of

Ambikapur region, aware of this use, confirmed its promising effects. I have mentioned in previous articles that in almost all parts of Chhattisgarh, the curry prepared from Munga fruits is very popular. The Farm Workers of this region also consume it with taste. They informed that they recommend it to the patients recovering from exhaustive diseases specially fever and to make the taste of mouth good. In treatment of Kamar Dard (Lumbago), the Farm Workers use the bark externally. The bark is boiled in water and the softened bark is applied in form of paste on painful parts. This is considered as very useful treatment. The natural forests of Ambikapur region are rich in wild population of Baibirang (*Embelia ribes*). The Farm Workers of this region use this herb very commonly. To improve the taste of mouth due to digestive system related troubles, they use Baibirang in combination with Shahad (Honey). The combination is given a shape of small globules. These globules are kept in mouth. When I informed the traditional healers of this region about this combination, they replied that the same combination can also be used in treatment of mild fever. I have informed the Farm Workers about the healer's comment.

The expertise of the Farm Workers in use of Munga plant parts is a matter of appreciation. They are getting benefits from the traditional knowledge. This is the reason that the use are still in existence.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 190. Kamar Dard Bar Halwa.

For the first time I got information regarding this sweet preparation from the traditional healers of Bastar region. Kamar Dard means Lumbago. This sweet preparation is popular among the traditional healers only. The natives are not much aware of this preparation. The healers recommend it only in treatment of Lumbago. This specific use has limited the scope of this

sweet dish and this is the reason, this is becoming a thing of past. This observation encouraged me to document the available information regarding this traditional dish without any delay. In this preparation, Sonth (Dried Ginger) and fruit pulp of Andi (*Ricinus communis*) play important roles.

Material Required: Fruit pulp of Andi, Sonth, Ghee, Cow Milk and Sugar.

Method of Preparation: Fruit pulp of Andi is roasted well in cow ghee. The roasted pulp is mixed with Sonth and the combination is further mixed in cow milk. The solution is boiled and converted into thick paste. In this paste, sugar is added and combination is made into Halwa after roasting. Once prepared in bulk this Halwa can be used upto long time. In general, the healers prepare it at their homes and give it to the patients without disclosing ingredients and method of use.

For the botany, traditional and reported medicinal uses of Andi and Sonth (Dried Ginger) please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 178. Seri (*Glossocardia bosvallea*, family Compositae).

Seri is a common annual herb that grows naturally in open rocky soils. This herb is present in almost all parts of the Chhattisgarh. Although the traditional healers and senior natives are aware of its natural occurrence but they are not much aware of its medicinal properties and uses. I have observed during the ethnobotanical surveys conducted in different parts of Chhattisgarh that the traditional healers specialised in treatment of Gynaecological troubles use

this herb very frequently. The use of its leaves in treatment of these troubles is also mentioned in reference literatures. Besides leaves, the healers of Chhattisgarh use its different plant parts as medicine both internally as well as externally. They suggest the patients having the problem of Safed Pani (Leucorrhoea) to wash the vagina with the decoction of Seri roots. The roots collected before flowering are considered best. In treatment of Dysmenorrhoea, the whole herb in powder form is added in popular herbal combinations. According to the traditional healers, the whole herb powder plays an important role in the herbal combinations. The traditional healers of Gandai-Salewara region informed that its leaves and roots can be used as birth control measure but as other promising alternatives are available these plant parts are used less commonly.

According to the reference literatures, botanically Seri is annual, diffuse, erect or prostrate herb, sometimes woody at the base; stem and branches grooved; Leaves alternate pinnatisect; Heads terminal or axillary; Involucral bracts 2-seriate; Ray florets ligulate, 2-dentate, disc florets, 4-lobed; Achenes narrowly oblong, patently hairy on the edges; pappus consisting of small stiff awns.

Officially, the names of Seri plant parts are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors have confirmed this information.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Mungeli region.

Through the interactions with the Farm Workers of Mungeli region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The senior Farm Workers of Mungeli region informed me about a special herbal combination that can be used in treatment of chronic cough. In this herbal combination the bark of Khair (*Acacia catechu*), Bahera (*Terminalia bellirica*) fruits and Laung (Clove) are mixed in 4:2:1 ratio. The combination is crushed into powder and taken internally with Shahad (Honey). It is considered as one of the promising treatments. The use is continued till complete cure. The traditional healers of Mungeli region are also aware of this use. They confirmed its promising effects. Khair and Bahera are well known trees in this part of Chhattisgarh. In treatment of Daad (Ring Worm) the Farm Workers use many herbs and herbal combinations. In complicated case, they use a special oil prepared by Karonda (*Carissa carandas*) roots. The roots are boiled in base oil and when all watery contents evaporate the boiling is stopped and oil is kept for future use. As base oil Sarson (Mustard seed) oil is used. The special oil is used externally. It is applied on affected parts. This oil is very popular among the Farm Workers. Karonda is planted as hedge plant for its fruits. The Farm Workers of this region are well aware of many medicinal uses and properties of Semar plant parts. The scientific name of Semar is *Bombax ceiba*. In treatment of troubles related to urinary system the Farm Workers use the powdered bark of Semar internally in combination with sugar. According to them, this simple treatment cures the trouble in majority of cases. In case of complication, they approach to the traditional healers for systematic treatment. They use the cotton of Semar externally in combination with water in treatment of burns. As first aid measure, it is applied simply on affected portions. To suppress the boil, they use the green roots of Semar. The bark is removed and roots are crushed with the help of stone. An aqueous paste is prepared and applied externally on boil. The Farm Workers informed that after few applications this paste suppresses the boils effectively. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the roots of Semar, known as Semar Musli, as tonic specially as sex tonic. The Farm Workers of Mungeli region are also aware of this use. They use it both alone and in combination with other herbs for this specific purpose. Many Farm Workers are engaged in collection and supply of its roots, as part time job, to the herb collectors and traders. In treatment of eye related common troubles, the Farm Workers use the leaf juice of Munga (*Moringa oleifera*). The leaf juice is applied into the eyes in combination with Shahad (Honey).

During the surveys, I observed that the Farm Workers of young generation are not taking interest in traditional knowledge. They have little respect and faith in medicinal potential of the herbs present in surroundings. They do not showed interest in interactions. This is not a good sign.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Dhamtari region.

Through the interactions with the Farm Workers of Dhamtari region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many medicinal uses and properties of Safed Champa (*Michelia montana*). Safed Champa is planted in home gardens as ornamental herb. In treatment of Malarial fever, the Farm Workers use the flowers internally. The aqueous extract of Champa flower is taken internally. This extract is used as supplement treatment to main treatment. In order to suppress the boil, the Farm Workers use the latex of Champa herb. The latex is applied on boils many times a day. The use is continued till complete cure. This use is very popular among them. In treatment of snake bite, the Farm Workers use the flower bud of Peela Champa (*Michelia champaca*). The freshly collected flower buds are rubbed in stone and with the help of water, extract is prepared. This extract is given internally as treatment. They also use the dry buds, but dry buds are boiled in cow milk and given to the patients. In general, they use it as first aid measure till the arrival of the traditional healers for systematic treatment.

The traditional healers of Dhamtari region are also aware of these uses. They confirmed its promising effects. As systematic treatment they use the combination of Champa and Bael (*Aegle marmelos*) barks internally. Bael is well known herb of medicinal and religious importance in this part of Chhattisgarh. In treatment of old fevers when all remedies fail, the senior Farm Workers of Dhamtari region use Bael plant parts. The bark and leaves of Bael are mixed in 2:1 ratio and boiled in water to prepare the decoction. This decoction is taken internally as treatment upto complete cure. This is considered as one of the promising treatments. The traditional healers informed that the bark and leaves of Bael can be mixed in equal proportion also. In treatment of vomiting and vomiting sensation, the Farm Workers use the powdered bark of Bael in combination with Shahad (Honey). According to them, this simple combination cures the trouble effectively in very less time. Many Farm Workers mix the juice of Bael and Ama (Mango) fruit juice in equal proportion and after adding sugar in it, take internally in treatment of same trouble. They consume the pulp of matured fruits of Bael in treatment of throat related troubles. Madar (*Calotropis procera*) grows as wasteland weed in this part of Chhattisgarh. The Farm Workers have kept this weed in the category of medicinal weeds. They collect its root and after shade drying convert it into powder. This powder is taken internally with cow milk in treatment of rheumatic pain. It is considered as a boon for the patients having such trouble. Many Farm Workers informed that they collect different parts of Madar and sell it to the herb traders. They are aware of its demand. The senior Farm Workers of this region use all parts of Khair (*Acacia catechu*) tree in treatment of Kodh (Leprosy). All parts are mixed in equal proportion and boiled in water. The decoction is used to wash the affected parts. The senior Farm Workers informed that this use was popular in early days. The traditional healers of Dhamtari region confirmed the promising effects of this decoction.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. These uses are coming among the world community for the first time through this article.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Mahasamund region.

Through the interactions with the Farm Workers of Mahasamund region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are well aware of many medicinal properties and uses of Jason (*Hibiscus rosa-sinensis*). Jason is popularly planted in home gardens. For the natives of Chhattisgarh, it is a herb having religious as well as medicinal importance. The Farm Workers use the flowers bud of Jason in treatment of Piles (Bavasir). The buds are roasted in cow ghee and taken internally as medicine. Sugar is also added for taste. The traditional healers of this region are also aware of this use. They suggested that the addition of Nagkesar (*Mesua ferrea*) with roasted bud, increases its potential but the Farm Workers are satisfied with the promising results of roasted bud alone. This roasted bud is considered specially suitable in treatment of bleeding piles. The senior Farm Workers of this region prepare a special herbal oil by boiling the Jason leaves in Til (Sesame seed) oil. When all watery contents evaporate, boiling is stopped and oil is kept for future use. This oil is considered as a boon for the patients having the problem of Insomnia. The oil is massaged gently on head as well as on soles of legs. According to the senior Farm Workers, this oil makes the mind cool. The traditional healers of Mahasamund, aware of this oil, add more herbs like Gondla (*Cyperus* sp.), Jatamansi (*Nardostachys jatamansi*), Khas (Vetiver) etc. in order to make the oil more useful. The natural forests of Mahasamund region are rich in wild population of Parsa (*Butea monosperma*). In treatment of Dysuria, the Farm Workers use its flowers. The flowers are boiled in water and softened flowers are converted into paste. This paste is applied on pelvis. It is also applied in same manner in treatment of swellings in pelvis. In treatment of Mumps, the Farm Workers use its roots. In combination with Rice water they prepare an aqueous paste and this paste is applied around the root of the ears. This use is very popular among them. In treatment of Scorpion sting, the Farm Workers use the fruits of Parsa. The fruits are collected and dipped upto fifteen minutes in Duddh (Latex) of Fudhar (*Calotropis gigantea*). After dipping, the fruits are dried in shade. After drying the fruits are dipped again in Fudhar latex. The same process is repeated many times, atleast upto twenty times. After this process, the fruits are applied on affected portion. According to the Farm Workers, the application of fruit absorbs the poison and nullifies its effects. This was new information for me. For use in future, the Farm Workers prepare the fruits in advance, also in bulk. These latex soaked fruits can be used upto one year - they informed. During the surveys, I got opportunities to observe its practical uses many times. You will be surprised to know that the traditional healers of this region are not aware of this promising use. Many Farm Workers sell the soaked Fruits to the herb vendors without disclosing the method of its

preparation. As Parsa and Fudhar both are available commonly, the Farm Workers prepare it easily without much expenses.

During the interactions, the Farm Workers gave full co-operation and support. They informed me about many medicinal rice varieties which were under cultivation in past. You will find the details about these varieties in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Kanker region.

Through the interactions with the Farm Workers of Kanker region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many herbs and herbal combinations useful in treatment of Scrofula. They use the Guggul (*Commiphora mukul* gum resin) in combination with Kali Mirch (*Piper nigrum*). Both herbs are mixed and with the help of Sirka (Vinegar) an aqueous paste is prepared. This paste is applied externally on affected parts as treatment. Many senior Farm Workers informed that the horn and toe of cow can also be used in treatment of Scrofula successfully. They burn these animal parts and mixed the ash in equal proportion. This

combination is applied in same manner. This was new information for me. Also for the many traditional healers of this region. In treatment of pains in ribs, the senior Farm Workers use the horns of Bison. The horns are burnt to collect the ash. In this ash Kali Mirch (*Piper nigrum*) is added and an aqueous paste is prepared. This paste is applied on painful ribs. According to them, this simple use cures the trouble effectively in very less time. In case of complications, they prefer to approach the traditional healers for systematic treatment. In treatment of chronic cough particularly in case of small children, the Farm Workers prepare a herbal combination having Kakdasinghi (*Rhus succedanea*) and Pippali (*Piper longum*) fruits. Both herbs are mixed and given internally with Shahad (Honey). The use is continued till complete cure. The Farm Workers purchase Kakdasinghi from herb vendors of neighbouring states. In treatment of digestive system related troubles they use many herbal combinations. These herbal combinations are also used in normal days to keep the system regular. The Farm Workers informed me about two such herbal combinations. In first combination they add the fruit rind of Harra (*Terminalia chebula*), Sonth (dried Ginger), rock salt, Baibirang (*Embelia ribes*), Chita (*Plumbago zeylanica*) and Hing (*Asafoetida*). All herb parts are mixed in equal proportion and in this combination double quantity of Gud (Jaggery) is added. The combination is given a shape of small globules. These globules are taken twice a day as treatment with lukewarm water. In reference literatures related to different systems of medicine in India I have found many related formulations. This is a matter of appreciation that these Farm Workers are still practicing the traditional knowledge with deep faith. In second combination they add Ajwain (*Carum copticum*) and delete Baibirang. To give it a shape of small globules, the Farm Workers use Limau (Lemon juice) Rasa. They prefer the first combination. As most of the ingredients are present in natural forests of this region, the Farm Workers prepare it easily.

The Farm Workers of Kanker region have deep faith in traditional medicinal knowledge. The great observation is that they are still using this knowledge in their day to day life. Their knowledge about the medicinal uses of animal parts is also a matter of appreciation.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 174. Gasti (*Ficus virens*, family Moraceae).

Gasti is well known tree in rural and forest areas of Chhattisgarh. It is both planted and occurs naturally in wild. It is planted in roadside and public gardens for shade. The traditional healers of Chhattisgarh are aware of its few but important traditional medicinal uses. They use its bark (commonly) and roots (rarely) as medicine. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected many valuable information regarding its traditional medicinal uses. Its bark is used popularly in form of decoction in treatment of stomatitis. The patients are advised to gargle with this decoction. The traditional healers of Gandai-Salewara region add its roots in dry form in popular herbal combinations used in treatment of Diabetes. According to them, this herb plays an important role in these combinations. Its roots are not used alone. They give the reason for it. They informed that the root is having some toxic contents and when it is used in combination, the presence of other herbs nullifies the harmful effects. The traditional healers of Pendra region use the decoction of bark to wash the anus in treatment of Piles, but as other promising alternatives are available, the bark is used less commonly. The traditional healers of Bagbahera region use the bark in unique way. The barks are collected and dried in shade. The shade dried bark is dipped in Rice water upto long time. The moist barks are dried in shade and after drying again dipped in Rice Water. The process is repeated many times. After complete process the dry herbs are converted into powder and kept for future use. According to the traditional healers, this powder can be used externally in form of aqueous paste to treat all types of pain. In early days, these healers use medicinal rice varieties for preparation of Rice water but now a days they were not getting it and therefore they are using high yielding modern varieties having less promising effects. I have tried the combination for the headache. It acts in miraculous way. The above mentioned traditional medicinal uses have yet not been reported in reference literatures.

Officially, the names of different plant parts of Gasti are not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors have confirmed this information. The herb vendors collect its barks and roots for the traditional healers. This collection is not posing any threat on its natural population.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Workers of Durg region.

Through the interactions with the Farm Workers of Durg region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of this region are aware of many herbs and herbal combinations useful in treatment of dental troubles. In treatment of pain in decayed teeth, they keep the cotton piece soaked in Baibirang (*Embelia ribes*) aqueous extract for immediate relief. According to them its regular application helps in making the decayed teeth trouble free. They also prepare a special herbal combination. In this combination Supari (Betel nut) fruit, Kattha (*Acacia catechu*) and Pipal (*Ficus religiosa*) twigs, are used. All parts are mixed in equal proportion and crushed into powder. This powder is burnt and ash is collected. This ash is stored for future use. In case of severe toothache, they apply the ash and it is allowed to remain as such upto long time. It is considered as one of the promising treatments. In general, they prepare the ash in bulk and use it upto several years for this purpose. The traditional healers of Durg region are also aware of this use. They confirmed its promising effects. Many senior Farm Workers informed that in early days they were using the horn of Bison, a wild animal, as tooth powder. The horn is burnt and ash is used as tooth powder. The Farm Workers informed that this tooth powder gives extra shining to teeth. Now a days due to ban in collection of horns, this use is not much popular. They informed that many herb vendors still sell the tooth powder having Bison horn ash. From documentation point of view it is an important information. In treatment of Toothache many Farm Workers use Afeem (Opium) also. Afeem is applied directly on painful parts but this use is limited to few Farm Workers. In treatment of Stomatitis, the Farm Workers use the combination of Masoor (Lentil) seeds with Kattha. The seeds are burnt and ash is collected. This ash is mixed with equal proportion of Kattha and applied on affected portion. According to them, in few applications this combination cures the trouble effectively in very less time. In case of same trouble in small children they use the combination of Kapoor (Camphor) and sugar. This combination is used in same manner. In treatment of throat related troubles particularly in case of hoarseness of voice, the Farm Workers use a special herbal combination. To prepare this

combination the fruit stone of Harra (*Terminalia chebula*), Pippali (*Piper longum*) and Namak (Salt) are mixed in equal proportion and in combination with Shahad (Honey) taken internally. The use is continued till complete cure. In general, this combination cures the trouble within a week or two. The traditional healers of Durg region have confirmed the usefulness of this combination.

I was expecting the information regarding medicinal weeds from these Farm Workers but there in depth traditional knowledge about common herbs and animal parts is a matter of appreciation. Through this valuable knowledge they try to manage most of their health related troubles. This is good sign.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Workers of Bagbahera region.**

Through the interactions with the Farm Workers of Bagbahera region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Workers of Bagbahera region use the roots of Punarnava both internally as well as externally in treatment of many common disease. Punarnava (*Boerhaavia diffusa*) occurs as wasteland herb in this part of Chhattisgarh. The Farm Workers have kept this herb in the category of medicinal weeds. In treatment of Garmi (Syphilis), they take the aqueous extract of Punarnava roots internally. The traditional healers of Bagbahera region are also aware of this use. They consider it as promising supplement treatment to main treatment. In treatment of Carbuncle, the Farm Workers use the aqueous paste of its roots externally. They also use the roots in form of decoction to dress the wounds. The Farm Workers informed that the herb collectors and traders purchase this herb but due to very poor returns they do not collect it for them. This region is rich in natural population of Punarnava herb. It is locally known as Santhi also. The Farm Workers use the bark and leaf decoction of Koha (*Terminalia arjuna*) as home remedy in treatment of common fever. They continue the use till complete cure but in case of complications, they approach to the traditional healers for systematic treatment. Koha is well known medicinal tree in this region. The Farm Workers are aware of its potential use in treatment of bone fracture. When we started discussion on Bar tree and its medicinal uses, they Farm Workers informed that they suggest the female natives having Dysmenorrhoea or Leucorrhoea to wash the vagina with the decoction of Bar (*Ficus benghalensis*) bark. The healers of this region confirmed its promising effects. During the interaction, I observed many Farm Workers wearing Locketts having Majith wood piece. Majith is well known herb of medicinal importance in this region. Its scientific name is *Rubia cordifolia*. The Farm Workers also keep the wood piece in their homes. It is common belief among them that Majith wood pieces protect them from evil spirits. I am searching the science behind this popular belief. Many senior Farm Workers informed that they use the fruit powder of Sindoori (*Mallotus philippensis*) in treatment of intestinal worms. The fruit powder is taken internally in combination with Shahad (Honey). According to them, in very few doses it cures the trouble effectively and flushes out the worms. Its popularity among them clearly indicates its effectiveness. The Farm Workers use the decoction of whole herb of Arusa (*Adhatoda vasica*) to wash the body after coming back from paddy fields. If daily use is not possible then they never miss to use it once in a week. According to them, this decoction helps in preventing the skin related troubles.

The Farm Workers of Bagbahera region are not only utilizing the traditional knowledge about common herbs for themselves but also encouraging the natives of young generation to understand its importance. This is good sign.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 188. Pakar Ke Murabba.

Pakar is a local name of *Ficus rumphii*. It is well known tree in almost all parts of Chhattisgarh. Its fruits are edible. According to the senior natives of Chhattisgarh in early days, a sweet dish known as Pakar Ke Murabba was in use. This dish is prepared by using Pakar fruits. The natives were consuming it for its specific taste. The traditional healers of Chhattisgarh are still aware of this preparation and many of them recommending it as medicine to their patients. According to them, Pakar Ke Murabba is a boon for the patients having the problem of spleen. It is also considered promising in treatment of digestive system related troubles. I personally feel that there is a need to popularize this herbal dish among the natives of young generation.

Material Required: Pakar fruits and Sugar (Shakkar).

Method of Preparation: The fruits are washed thoroughly and cut into small pieces. These pieces are boiled in water. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The boiled pieces are added in Chashni to prepare the Murabba. Once prepared in bulk, it is used round the year as per recommendations of the healers.

For the botany, traditional and reported medicinal uses of Pakar, please read my previous articles.

**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 173.
Kathumbar (*Ficus hispida*, family Moraceae).**

According to the reference literatures, Kathumbar is a shrub or small tree distributed throughout India. The traditional healers and herb collectors consider it as wild relative of Doomar (*Ficus glomerata*) and named it as Van Doomar. The senior natives informed that actually Doomar and Van-Doomar were two brothers. One stayed with human beings to serve them and other stayed with the wild animals in forest regions. This is the reason the traditional healers try Van Doomar when Doomar fails to give desirable effects as medicine or when troubles take wild form. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of Kathumbar. The traditional healers of Chhattisgarh consider its roots more useful as compared to the Doomar. They use it in treatment of Leucoderma. The roots are used alone or combination with other herbs. The roots are used internally as well as externally. Internally, the aqueous extract is taken empty stomach whereas externally in form of aqueous paste, it is applied on affected parts. The traditional healers of Bilaspur region use its roots in treatment of Jaundice. It is most commonly used herb by them. The healers of Charama region, avoid its use in any form in treatment of patients having constipation. In case of urgency, they prefer Doomar roots. The traditional healers of Gandai-Salewara region add the roots in popular herbal combinations used as sex tonic and aphrodisiac. The newly wed couples are advised by them to take its root powder internally with Kevatch (*Mucuna pruriens*) seeds. Like the fruits of Doomar, its fruits are also edible and the natives consume it with taste.

Officially, the names of different plant parts of Kathumbar are not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors informed that they are collecting it for the traders on demand. The natives of forest regions confirmed this observation. Many herb collectors informed that its roots are used as adulterant to other high value roots but they are unable to name these hi-value roots. I am trying my best to gather more information on this aspect.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Workers of Pendra region.**

After completing the series based on the interactions with the Farm Women of different parts of Chhattisgarh I am starting the new series based on the interactions with the Farm Workers. In these interactions, I interacted with the male Farm Workers. You will find many important information regarding common herbs, insects and animals and its traditional uses, in the articles of this series. I am starting it from the results of the interactions with the Farm Workers of Pendra region.

This region is rich in natural population of Dhanbaher (Cassia fistula) tree. The Farm Workers of this region are aware of many traditional medicinal uses and properties of this herb. Through the interaction, I got new information regarding its use. The Farm Workers use the fruit pulp of Dhanbaher in treatment of Stomach pain. The fruit pulp is applied in form of aqueous paste externally around the Umbilicus as treatment. The traditional healers of this region are aware of this use. They consider this use very promising in case of small children. The Farm Workers further informed that for stomach pain in case of small children, they use the leaf juice of Pashanbhed (Coleus sp.). The juice is used internally. In combination with sugar it is given to the patients in small doses. The use is continued till complete cure. This use is very popular among them. Many species of Coleus grow naturally in surroundings. Many senior Farm Workers are aware of Bemchi oil. They use this oil internally as blood purifier whereas externally it is used in treatment of skin related troubles. According to them, this oil is useful for the natives of all age group. The youths having pimples are advised by them to apply the oil externally on it. This oil is also used for removing the wrinkles and black spots from the face. I have mentioned in previous articles that in many parts of Chhattisgarh, Bemchi plant parts and its seed oil are used in treatment of Leucoderma. The senior Farm Workers of Pendra region are also aware of

this use. Bemchi (*Psoralea corylifolia*) grows as winter season weed in this part of Chhattisgarh. Although it is considered as weed in many parts of India but for the Farm Workers of Pendra region it is source of an additional income. They collect its seeds and sell it at good prices. Many Farm Workers particularly the senior Farm Workers aware of its secret method of oil extraction, earn more by selling its oil to the herb traders, vendors and also to many healers. Besides these advantages, the Bemchi herb helps in curtailing their medical expenses. In treatment of skin troubles, they also use another weed Charota (*Cassia tora*). The Farm Workers informed that to protect the body from any type of infection particularly in rainy season, they use the decoction of Charota leaves to wash the body. Many of them wash their cattle also with this decoction. The Farm Workers use its roots in treatment of gynaecological troubles. The aqueous extract of root is given in combination with rice water in treatment of Safed Pani (Leucorrhoea). It is considered very effective in treatment. Like Bemchi plant parts, the Farm Workers of this region also collect and sell Charota herb parts. Charota grows in rainy season whereas Bemchi emerges after the end of rainy season i.e. in winter season. In this way, the Farm workers protect themselves from skin troubles round the year through these herbs.

The Farm Workers of Pendra region informed that due to introduction of new weed species and uncontrolled spread, many native herbs are in great danger. The new species like *Parthenium* are causing health hazards to them because they come in regular contact with these invasive species. I informed them about preventive measures and simple methods to eradicate these new species around their homes.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice Farmers of Gandai-Salewara region.**

Through the interactions with the Rice Farmers of Gandai-Salewara region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Bach (*Acorus calamus*) grows commonly in marshy areas of this region. The Rice Farmers are aware of its natural occurrence in the region. Many of them are aware of its medicinal properties and uses. The Rice Farmers associated with Tantra activities, consider this herb as a gift of mother nature. They use it in treatment of Mirgi (Epilepsy) and also to make the body free from evil spirits. Bach rhizome powder is in use as memory enhancer in this region. The Farmers take the powder in very small doses with Shahad (Honey) upto long time. The natives having liver related troubles are not allowed to take Bach in any form. The senior Rice Farmers informed that wrong use of Bach may result in harmful consequences. They suggest such patients to eat plenty of Saunf (Fennel). Also, the Shurbut prepared from Limau (Lemon) fruit is given internally to them. Among the Rice Farmers we are trying to establish Bach as potential medicinal crop in Chhattisgarh, as Bach can be cultivated in rice fields and also with rice crop. The Rice Farmers of Gandai-Salewara region are welcoming this new concept because for them rice is no longer a profitable crop. As Bach is present in surroundings, for cultivation they have not to purchase the planting material by giving very high prices. During the survey, I have observed that both species of Bach i.e. *A. calamus* and *A. gramineus* are present in wild. We are encouraging the cultivation of *A. calamus* among them. The Rice farmers are also aware of natural occurrence of Jatamansi (*Nardostachys jatamansi*). Many of them informed that internally Jatamansi roots can be used in treatment of Dysmenorrhoea. The traditional healers of Gandai-Salewara region are also aware of this use. They confirmed its promising effects. I have mentioned in previous articles that the innovative herb growers of many parts of Chhattisgarh are planting a single row of Sarpgandha herb (*Rauvolfia serpentina*) in between the rows of Aloe vera in commercial production in order to repel away the poisonous snakes. The Rice Farmers of Gandai-Salewara region use the roots of Sarpgandha both internally as well as externally in treatment of snake bite. Internally the powdered root is taken in small doses whereas the powder is applied on affected portion. According to them, both internal as well as external uses at a time cure the trouble effectively in very less time. The Rice Farmers confirmed that the availability of both species of Sarpgandha i.e. *R. serpentina* and *R. tetraphylla* are decreasing drastically due to over exploitation.

The above mentioned traditional medicinal uses are very valuable from documentation point of view. The matter of appreciation is that there Rice Farmers are not only aware of these uses but also they are practicing it.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 172. Pakar (*Ficus rumphii*, family Moraceae).

According to the reference literatures, Pakar (*Ficus rumphii* syn. *F. cordifolia*; *Urostigma cordifolium*) is a small or medium sized tree distributed in all parts of India. It is planted in gardens. Its fruits are edible. In Chhattisgarh the traditional healers and herb collectors are aware of its presence but it is a matter of surprise that they are not much aware of its medicinal properties and uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected the information on few but important traditional medicinal uses of this tree. The traditional healers of Southern Chhattisgarh use this tree as a part of Tree shade Therapy. The patients having mental tension and other associated troubles are advised by the healers to pass whole day under this tree. This is considered as one of the promising supplement treatments. The healers use its bark very commonly as medicine. The decoction of bark is used to dress the wound whereas the bark in form of aqueous paste is used in treatment of painful boils. According to the healers, the application of aqueous paste suppresses the boil, effectively. The healers of Chhattisgarh Plains use the decoction of bark to wash the anus as treatment to Piles, but as other promising alternatives are available it is used less frequently. The traditional healers of Pendra region use the fruits of Pakar as appetizer. The fruits are taken internally before meals for this purpose. In many parts of Chhattisgarh, the senior natives prepare a special Murabba using Pakar fruits. Besides its delicious taste, this Murabba is useful in treatment of spleen related troubles. The healers of Tilda region use its fruit as supplement in treatment of liver related troubles. The above mentioned traditional medicinal uses have yet not been reported in reference literatures.

Officially the names of Pakar plant parts are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but many herb collectors and traders confirmed that its bark and dry fruits are in trade, although there is no regular demand. The collection of bark is not posing any threat on natural population of Pakar at present.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh. India. :
Interactions with the Farm Women of Keshkal region.**

Through the interactions with the Farm Women of Keshkal region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of this region are aware of many medicinal uses and properties of Koha (*Terminalia arjuna*). Koha is well known tree in this region of Chhattisgarh. Besides, its use in treatment of heart trouble and bone fracture, the Farm Women use its leaf juice in treatment of ear pain. Few drops of fresh juice is applied into the painful ear as treatment. According to them, in most of the cases they get relief from the leaf juice. The traditional healers of Keshkal region are also aware of this use. They confirmed its promising effects. To avoid the vomiting and vomiting sensation particularly in case of Garmi (Syphilis), the Farm Women use the supporting roots of Bar (*Ficus benghalensis*). The roots are collected and dried in shade. After drying the roots are converted into powder. This powder is taken internally as treatment. This use is very

popular among them. Its popularity clearly indicates its efficacy. Bar is a common tree of religious and medicinal importance. Gumma (*Leucas aspera*) occurs as common rainy season weed in this part of Chhattisgarh. The Farm Women use it very commonly as medicine. They use its extract internally in treatment of snake bite. The extract is also applied on affected parts. The traditional healers of this region consider it as promising first aid measure till their arrival for systematic treatment. Many senior Farm Women informed that in combination with other herbs, the roots of Gumma can be used in treatment of spleen related troubles, resulting after the Malarial fever. They collect the roots before flowering. The roots are collected on Thursday and Sunday only. After collection, the roots are dried in shade and after drying converted into fine powder. In this fine powder equal proportion of whole herb powder of Pitt Papda (*Fumaria* sp.) is added. The combination is added in lukewarm water. In solution, sugar is also added. The patients are advised to take the solution internally. The Farm Women informed that the intake of this solution will result in vomiting or loose motion, after few hours. The solution is taken twice or thrice in a week and according to them, this simple treatment cures the trouble completely. Pitt Papda is also a common herb present in surroundings in abundance. The Farm Women have gained this knowledge from their fore fathers and since generation they are practicing it without taking any charge. Many traditional healers are eager to know this secret formulation. Although the Farm Women are unable to give scientific explanation regarding collection of roots on specific days as they are just continuing the traditional practice, I think it is our responsibility to establish the scientific explanation for our future generations. Many Farm Women use the decoction of whole herb of Gumma in combination with Pippali (*Piper longum*), internally in treatment of joint pains but this use is not much popular among them. I have observed during the survey that the Farm Women working on other Farms uproot Gumma as it is considered as weed by common farmers and after uprooting, they sell the fresh herb at local vegetable market whereas dry herb is sold to the herb traders. In this way they earn an additional income from this waste plant with the helps of their practical knowledge.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am thankful to the Mother Nature for giving me opportunity to document this important traditional knowledge.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Khairagarh region.

Through the interactions with the Farm Women of Khairagarh region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of this region informed about the unique herbal combination used externally in treatment of fractured bone. In this combination they use many herbs. These herbs are Majith (*Rubia cordifolia*), Hadjod (*Cissus quadrangularis*) stem, Mahua (*Madhuca latifolia*) bark, Amla (*Tamarind*) leaves, Koha (*Terminalia arjuna*) bark and Kukronda (*Blumea lacera*) leaves. All herb parts are collected and mixed in equal proportion. By crushing this combination a thick paste is prepared. After setting the bone correctly, this paste is applied on affected parts and allowed to remain it as such upto 10-15 days. Although the secret of this formulation is limited to very few Farm Women but it is a matter of appreciation that they are practicing this traditional knowledge free of cost and many of them are charging the cost of herbs only. Majith, Koha, Amla, Hadjod and Mahua occurs naturally in forests present in surrounding. Kukronda grows as wasteland herb in this region. The Farm Women informed that in many cases Hadjod produces irritation in skin. In such cases they delete it from the formulation. According to them, Blumea leaves are added to prevent the chance of any infection. They consider it as promising as well as cheap substitute to Neem Chhali (bark). Besides healing, Majith helps in removing the marks of injuries and provides extra soothing effects to skin. The calcium rich bark of Koha helps in reunion of bone. The Mahua bark also plays the same role. The leaves of Amla helps like the Blumea leaves. These are not my explanations. These details are given by the Farm Women. It is beyond imagination to expect such in depth traditional medicinal knowledge by simply looking the Farm Women. When I informed them about the importance of on-going documentation work, they showed interest and also asked that why this work has not been started earlier, as they have lost many valuable traditional knowledge with the senior traditional healers. In Khairagarh region, many bone setters are giving their services to the society. Majority of them uses the above mentioned combinations by adding or deleting one or more herbs. Out of curiosity, after coming back, I boiled the mixture in base oil and prepare a special herbal oil. When I tried it in treatment of rheumatic pains, it worked as miracle. I visited to the Farm Women and presented them the special oil with formulation. This is a matter of proud as well as satisfaction that after slight modification they are using this oil in social service. They have done the modification by adding more herbs to nullify the effects of irritating contents present in oil. I

have mentioned in previous articles in this series, that the Farm Women of many parts of Chhattisgarh use the leaves of Pipal (*Ficus religiosa*) boiled in cow milk, upto one month in any parts of the year to maintain the good health and to get protection from gynaecological troubles. The Farm Women of Khairagarh informed that they use the leaves in same manner in treatment of Garma (Syphilis). The traditional healers of this region are also aware of this use. They suggested that it can be used as supplement treatment to main treatment and acts in promising way at initial stages. Pipal is well known tree of religious and medicinal importance in this part of Chhattisgarh.

As bone injuries and related troubles are common in all parts of the world. I am confident that the traditional knowledge of the Farm Women of Khairagarh region can save thousands of lives. They requested me to write specially, while disclosing the formulation among the world community that, 'Please use this formulation for the suffers without charging any fees from them. If anyone charge the fees, the miracle effects of this formulation will be lost for ever.'

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 187. Munga Patti ke Sag.

Munga is a local name for *Moringa oleifera*. I have mentioned in previous articles that the natives of Chhattisgarh use its green fruits as vegetable. Munga Patti Ke Sag is prepared by using its leaves. This preparation is consumed by the natives at special occasions. In Festival named Khamarchhat, the natives prepare curry (Sag) by using many leaves. Munga leaves are

among these leaves. The natives consume it because of its specific taste. The traditional healers of Chhattisgarh are aware of its health benefits. They recommend this preparation to the patients having the problem of Chronic constipation. Many healers consider it as promising blood purifier. They specially recommend it to the anaemic patients. They informed that after understanding its potential medicinal properties, this preparation has been associated with our festival by the fore fathers.

Material Required: Munga leaves, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices) etc.

Method of Preparation: Oil is taken in pan and pan is kept on fire. Munga leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Munga, please read the previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 171. Bhui Tulsi (*Salvia plebeia*, family Lamiaceae).

Bhui Tulsi occurs as wasteland herb in almost all parts of Chhattisgarh. The senior natives, traditional healers and herb collectors are aware of its presence in natural forests and urban areas. Many traditional healers are using it as medicine. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of Bhui Tulsi. The traditional healers use all parts of Bhui Tulsi as medicine but whole herb, roots and seeds are used more commonly. The traditional healers of

Mungeli region use its roots alone or in combination with other roots in treatment of Adhasisi (Migraine). The roots are collected and with the help of water an aqueous paste is prepared. This paste is applied externally on painful parts. In complicated cases or at advanced stages, roots are used in combination with other roots but Bhui Tulsi plays central role in this combination. The traditional healers of Rajnandgaon region consider the freshly extracted juice of Bhui Tulsi suitable in treatment of Mirgi (Epilepsy). At the time of attack, few drops of juice is applied into the nostrils as treatment. The traditional healers of Charama region informed that in early days they were using the roots of Bhui Tulsi in dry form as popular smoke, in combination with other herbs in treatment of brain related troubles. This use is not much popular these days. During visits to natural forests for the collection of herbs when the herb collectors get injuries, as styptic to stop the bleeding they apply the whole herb juice of Bhui Tulsi in affected parts. In reference literatures related to different systems of medicine it is mentioned that the seeds are used as demulcent in gonorrhoea, menorrhagia, diarrhoea and piles. The traditional healers of Chhattisgarh are not much aware of this use. The traditional healers of Pendra region use the whole herb to flush out the intestinal worms but as other promising alternatives are available it is used less commonly.

Officially, the names of Bhui Tulsi and its different parts are not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Women of Dongargarh region.**

Through the interactions with the Farm Women of Dongargarh region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Sitaphal is well known herb in this part of Chhattisgarh. It is planted in home gardens for its delicious fruits. Many Farm Women of Dongargarh region do not consider it as good luck plant and uproot it from home gardens. As this herb grows naturally in wasteland. Also in general, they associate this herb with graveyard. For its delicious fruit and medicinal uses of different parts, they use it very frequently. The scientific name of Sitaphal is *Annona squamosa*. The Farm Women of this region prepare a special herbal oil by using Sitaphal leaves. The leaves are collected before fruiting and boiled in base oil. When all watery contents evaporate boiling is stopped and special oil is kept for future use. As base oil Til (Sesame seed) oil is used. The special oil is used externally for hair care. They informed that besides promoting the hair growth, the application of this oil keeps the mind cool. This is the reason the natives having the problem of Insomnia are advised by the Farm Women to massage the scalp with this oil. The oil is also massaged in soles for more promising effects. Many Farm Women add whole herb juice of Bhengra (*Eclipta alba*) and Mandukparni (*Centella asiatica*) in the oil before boiling to increase the effects. The traditional healers of Dongargarh region were not much aware of this use. They were preparing an oil using Bramhi (*Bacopa* sp.), Mandukparni and Bhengra as main ingredients. When I informed about the use of Sitaphal leaves, at first they hesitated but when the leaves are added and they got promising effects, they thanked the Farm Women. During the survey, I have observed that many Farm Women prepare it in bulk and sell it to the interested natives. I have mentioned in previous articles that in many parts of Chhattisgarh, the leaf decoction of Sitaphal is in use for the same purpose. The Farm Women do not use the leaf decoction. As heart tonic, many Farm Women prepare a special Shurbut using the fruit pulp of Sitaphal. This Shurbut is also popular among them for its unique taste. Like Sitaphal, Chirai Jam (*Syzygium cumini*) is also well known fruit tree in this region. The Farm Women prepare Sirka (Vinegar) using Chirai Jam fruits and use it internally in treatment of liver related troubles. This knowledge is limited to few Farm Women only. In order to treat the problem of foul breath due to decayed teeth, the Farm Women boil the young leaves of Chirai Jam and prepare a decoction. This decoction is used as gargle. This decoction is also considered useful in treatment of Stomatitis. Many senior Farm Women informed that the young, newly emerged leaves of Ama (*Mangifera indica*) can be used in treatment of diabetes. The leaves are used in form of decoction. They have no detailed information regarding the duration of use and doses because in case of diabetes, they approach to the traditional healers for systematic treatment. From documentation point of view it is an important information.

During the interaction the Farm Women hesitated to give the detailed information. Also, they saved many uses as secret formulations. It is not wrong. If their knowledge is in practice and they are transferring it to the next generation, it means it is safe and the chance of documentation can be missed.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 170. Umtao (*Antidesma ghesaembilla*, family Stilaginaceae).

The unique use of Umtao wood in form of wooden bowl by the traditional healers of Southern Chhattisgarh motivated me to write a separate article on this herb. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use Herbal glasses and wooden bowls in order to treat many common as well as complicated troubles. They fill the water in these glasses and wooden bowls and kept it overnight. Next morning leachate is taken internally, empty stomach as treatment. The traditional healers of Southern Chhattisgarh use the wood of Umtao, to make another special bowl. This bowl is used in same manner. The leachate is considered as boon for the patients having the problem of Amenorrhoea. This bowl is used for this specific purpose only. I have noted during the interactions with these traditional healers that they are using this traditional knowledge since generation without any modification. Its regular use and popularity among the healers indicate its effectiveness. But the knowledge of this bowl is limited to few healers and most of them are of old age. This observation encouraged me to document this important traditional knowledge without any further delay. The use of wooden bowl of Umtao is not mentioned in reference literatures. I am feeling proud to document this important traditional knowledge. The English name of this tree is Black current. Among the natives it is popular for its delicious fruits. In Chhattisgarh it grows naturally in many parts. The traditional healers use its bark for many purposes. They add it in dry form in popular combinations used to stop all types of bleeding. According to them this bark plays an important

role in this combination. The healers of Chhattisgarh use it as tonic but as other promising alternatives are available it is used less commonly.

Officially, the names of different plant parts of Umtao are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but many traders informed that they supply its bark on specific demand. They are not aware of its end use.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Tilda region.

Through the interactions with the Farm Women of Tilda region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Tilda region are aware of many medicinal uses and properties of Anar (*Punica granatum*). Anar is planted for its delicious fruits in home gardens. The Farm Women use all parts of Anar herb as medicine. They collect the flowers of Anar and dry it in shade. After drying the flowers are converted into powder. This fine powder is used as herbal tooth powder.

They also add more herbs like Neem leaves, Akarkara (*Spilanthes acmella*) whole herb etc. in this tooth powder to make it more promising but they claim that the tooth powder prepared from flowers is enough to give good results. It is considered as a boon to the natives having the problem of bleeding gum. I have observed during the surveys that many herb vendors are purchasing this tooth powder from the Farm Women in fair prices. The Farm Women informed that the leaf juice of Anar can be used for hair care. They apply the fresh juice on hair particularly near the roots and after drying wash it with the help of water. To kill the lice, they use the decoction of leaves in same manner. Many Farm Women claimed that the leaf juice of Anar is having the capacity to promote new hair growth and root out the problem of Alopecia. Many senior Farm Women informed that the fruit rind of Anar in dry form can be used in treatment of Night pollution (Nocturnal Emission), a common problem in young age. The shade dried fruit rind is converted into powder and given internally as treatment. Tilda region is known for rice cultivation. During Field work in rainy season in submerged fields when the Farm Women get itching problem between the fingers of leg, they use many herbs and herbal combinations to manage this problem. They can not wait upto long time as they have to go back in field in just next day. The Farm Women of Tilda region use the freshly collected latex of Bar (*Ficus benghalensis*) in affected parts many times a day. According to them, this simple use cures the trouble effectively in very less time. The traditional healers of this region recommend the use of Sarson (Mustard seed oil) Tel for the same purpose but the application of oil takes much time. The healers were not aware of use of Bar latex. When I informed them, they thanked the Farm Women and tried it. They have found it very effective. Bar is well known tree of religious and medicinal importance in this part of Chhattisgarh. Many senior Farm Women informed that the different plant parts of Bar can be used in treatment of diabetes. They use the Bar fruits in combination with lukewarm cow milk. For year round use, many of them use the fruits in dry powder form also. The traditional healers of Tilda region are also aware of this use. They added that the young leaves of Bar can also be used for the same purpose but they suggested that its use must be avoided upto long time. I have informed the Farm Women about the healer's comments.

Many of the above mentioned traditional medicinal uses are new for the traditional healers and also yet not been reported in reference literatures.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Gariaband region.

Through the interactions with the Farm Women of Gariaband region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women informed about many traditional medicinal uses of different flowers. They use the flowers of Gonda (*Tagetes erecta*) in treatment of bleeding Piles. The juice of flowers is taken internally as treatment. They use the flowers in another way also. They roast the flowers in cow ghee and take it internally. Gonda is planted as ornamental herb in home gardens. The traditional healers of Gariaband region are also aware of this use. They confirmed its promising effects and suggested that the treatment must be stopped after the stop of bleeding because long term use can result in harmful effects. I have informed the Farm Women about the healer's comments. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the flower of Jason (*Hibiscus rosa-sinensis*) in treatment of gynaecological troubles internally. The Farm Women of Gariaband region are also aware of this use. They take the flower juice internally as treatment. It is considered as promising treatment of Dysmenorrhoea. Kela (Banana) is well known fruit tree in this region. During interaction I got many new information regarding traditional medicinal uses of different parts of Kela. The Farm Women use the roots of Kela in treatment of intestinal worms. The roots are boiled in water and decoction is prepared. This decoction is taken internally. According to them, the regular intake of this decoction flushes out the worms. Every day new decoction is prepared. The use is continued till complete cure. Many senior Farm Women informed that the matured fruits of Kela in combination with Shahad (Honey) is a boon for the youths having the problem of spermatorrhoea. I was not expecting this information from them. Later when I asked the traditional healers about it, they confirmed its promising effects. Kela is planted in home gardens in this region. They use of its roots to flush out intestinal worms. The Farm Women of this region use the fruits of Kamal (Lotus) as female tonic. The fruit is collected and dried in shade. After drying it is converted into powder. This powder is taken internally twice a day with lukewarm water. In general, the Farm Women take a teaspoonful of powder at a time and continue its use upto one month. According to them its one time use, makes the body enough strong for the whole year. Kamal grows as aquatic herb in Chhattisgarh. As you know, in Hindi Pankaj is

synonym of Kamal. Similarly, in order to get protection from gynaecological troubles round the year, the Farm Women use the leaves of Pipal (*Ficus religiosa*). One leaf is boiled in a glassful of cow milk and taken internally daily. This use is continued upto one month to get good health round the year. I have observed that the Farm Women are not only aware of this unique use but they are using it in their day to day life. The matter of appreciation is that the women of young generation is taking interest in it. In treatment of Hichki (Hiccough) the Farm Women use the inner bark of Pipal. The shade dried bark is burnt and ash is collected. This ash is taken internally as treatment. It is considered as one of the promising treatments.

Although the Farm Women of Gariaband region failed to give the information regarding medicinal properties and uses of common weeds what I was expecting but the information given by them is of great importance. For medicinal weeds, I have planned to visit the region again with plant samples and photographs to gather more information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Women of Dondi-Lohara region.**

Through the interactions with the Farm Women of Dondi-Lohara region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

During the interaction, I saw many Farm Women using the young twigs of Malsari (*Mimusops elengi*) as Dataun (Herbal Tooth Brush). They informed that the Dataun of Malsari is also good for dental troubles. They use it as promising substitute to Bambri (*Acacia nilotica*) Dataun. Khair (*Acacia catechu*) is well known tree in this region. The Farm Women are aware of its many promising uses. They use its bark in treatment of Koth (Leprosy) both internally as well as externally. Internally, the shade dried powdered bark is given whereas externally, the patients are suggested to boil the bark in water to prepare the decoction. This decoction is used to wash the body. According to the Farm Women, both internal as well as external uses cure the trouble effectively. The traditional healers of Dondi-Lohara region are also aware of this use. They consider it promising supplement treatment to main treatment. They also warned that internally Khair bark should be used judiciously as overdose can cause much problems. Chirai Jam (*Syzygium cumini*) is well known tree for its delicious medicinal fruits. In Chhattisgarh it is popularly used as remedy to manage diabetes. The Farm Women use the bark of Chirai Jam in powder form in treatment of Rickets. The powdered bark is given internally in combination with lukewarm milk. Til (*Sesamum indicum*) is under cultivation as oil seed crop in this region. Many senior Farm Women informed that the leaf juice of Til herb can be used internally in treatment of dry cough. In treatment of chronic cough, the decoction of leaves is used. Its popularity among them clearly indicates its efficacy. They further informed that in early days they were using the leaf use of Kadu Parwal (*Trichosanthes cucumerina*) in combination with Giloi (*Tinospora cordifolia*) leaf juice, externally in treatment of skin troubles. The combination was applied on affected parts as treatment. According to them, the present generation is not taking interest in this combination and as a result it is losing popularity among them. From documentation point of view it is an important information. For Abortion, the senior Farm Women use the roots of Karela (*Momordica charantia*). The roots are boiled in water and decoction is prepared. This decoction is taken internally to induce Abortion. Karela is under cultivation as vegetable crop in this region. The traditional healers of Dondi-Lohara region do not consider it as safe way of Abortion.

From these Farm Women I got the long list of rice varieties that were under cultivation in this region in past. Many of these varieties were in use as medicinal rice varieties. At present high yielding varieties are under cultivation in this region. I have categorised the long list of traditional rice varieties in small groups. You will find the details about it in my coming articles.

Thank you very much for reading the article.

Kands of Chhattisgarh, India V. Ambarkand.

Ambarkand is well known Orchid species in Sal forests of Chhattisgarh. Its scientific name is *Eulophia nuda*. The traditional healers and herb collectors of Chhattisgarh are well aware of its natural occurrence in Chhattisgarh. Many of them informed that in past decades due to its heavy demand in national as well as international markets, this herb has been collected in bulk form wild and as result this herb has become endangered in many parts of the Chhattisgarh but this demand is now decreasing and the traders are showing interest in other Orchid species. Due to this decreased demand, this herb is getting the chance to reestablish in wild again. In Chhattisgarh, in the name of Ambarkand many herbs are supplied but through the specific characters the herb collectors identify it correctly. They collect its tuber for sell during flowering. The herb vendors of Chhattisgarh are also engaged in collection of Ambarkand to sell it to the healers of different neighbouring states. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected many valuable information on traditional medicinal uses of this herb. I am giving the details. The traditional healers of the state specialized in treatment of different types of Cancer use this herb both internally as well as externally. Internally its tuber is added in popular combinations whereas externally the patients are advised to put a piece of tuber in form of Herbal Mala or Locket and keep it in touch with the body. According to the healers, this external use helps the patients to gain vitality again and develops new confidence. I am trying to search the science behind this use. The traditional healers not adding Ambarkand in popular herbal combinations used in treatment of cancer, claim that Ambarkand tuber is added in the combinations just as harmless filler. I personally feel that there is a need of systematic research to establish the role of Ambarkand in treatment of different types of cancer. The traditional healers of Northern Chhattisgarh, use its tuber in treatment of snake bite but it is used in serious cases only. The healers are aware that the wrong use or overdose can cause big troubles. This is the reason they use it in combination with other herbs. In reference literatures, related to different systems of medicine it is mentioned that the tuber is useful in treatment of tuberculous glands of the neck, tumours, bronchitis and diseases of the blood. Many traditional healers of Chhattisgarh are aware of these uses, but as they manage these troubles by other herbs and herbal combinations, they use Ambarkand tubers less commonly. In combination with Baibirang (*Embelia ribes*) the traditional healers of Charama region use the powdered tuber in treatment of Intestinal worms. According to the healers, this use flushes out the worm effectively in very less time.

The decreasing collection trend of Ambarkand is good sign at least for the conservationists. During the surveys, I have seen many spots from where it has never been collected. I have found it ideal spot for studying this orchid. The state authorities are not much aware of its natural occurrence and trade. I personally feel that there is a strong need to focus the studies and pay attention on this specific herb in Chhattisgarh.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Dalli-Rajhara region.

Through the interactions with the Farm Women of Dalli-Rajhara region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of this region are aware of many traditional medicinal uses of Mokhla (*Asteracantha longifolia*). Mokhla grows as wasteland weed in this part of Chhattisgarh. The Farm Women use the roots and seeds of Mokhla in form of decoction in treatment of pain in Pelvic region. The roots and seeds are boiled in water to prepare the decoction. The patients are advised to take the decoction. The use is continued till complete cure. The traditional healers of Dalli-Rajhara region are also aware of this use. They confirmed its promising effects. In combination of cow urine, they also use the decoction internally in treatment of Ascites (Jalodari). I have mentioned in previous articles that the natives and traditional healers of many

parts of Chhattisgarh use the seeds of Mokhla as sex tonic and aphrodisiac. The Farm Women of this region use its seeds in combination with Kevatch (*Mucuna pruriens*) seeds. Both seeds are taken in equal proportion and crushed into powder. This powder is taken internally with cow milk. The Farm Women easily recognize this herb from its sharp spines. During field work they very commonly get injuries from these sharp spines. This weed prefers moist soil for growth. Many Farm Women collect the whole herb and sell it to the herb traders but as it is most common weed, they get very poor returns from this collection. The white flowered Mokhla is rare. The Farm Women informed that there is a good demand of this rare species and many times the traditional healers pay good returns for white flowered Mokhla, but the traditional healers purchase fresh herbs whereas the traders prefer dry herb. Dhikuar (*Aloe vera*) is well known herb in this region. The natives plant this herb in home gardens for its different medicinal uses. In order to reduce the intense pain in Bavasir (Piles), the Farm Women apply the Guda (Pulp) of *Aloe vera* externally on affected parts. This use is very common among them. The application of Guda gives only temporary relief. In treatment of Lakwa (Paralysis), the Farm Women use the root bark of Munga (*Moringa oleifera*). The root bark is taken both in dry form and in form of decoction. Many times they add the root bark in popular herbal combinations used in treatment of Lakwa. The traditional healers of this region added that the root bark can also be used in treatment of Mirgi (Epilepsy). The Farm Women use the fruits and leaves of Munga as vegetable. It is specially recommended to the native having the problem of Anaemia. The natives having the dental troubles are advised by the Farm Women to chew the immature fruits of Maulsari (*Mimusops elengi*). Its bark is also used for this purpose. The bark is boiled in water and decoction is prepared. The natives are advised to gargle with this decoction. According to the Farm Women, these uses are very promising in treatment and specifically useful in case of loosen teeth. This was new information for me.

During surveys, I have observed that many Farm Women collect different medicinal weeds from crop fields for their own use and also to sell it to the local shop owners. In exchange of dry herb they get either equal amount of Namak (Salt) or other grains. They hardly get any cash in return. They are satisfied as they are getting atleast some returns from these waste plants growing spontaneously in the surroundings.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Women of Mungeli region.**

Through the interactions with the Farm Women of Mungeli region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Fudhar (*Calotropis gigantea*) is well known herb in Mungeli region. It grows as wasteland weed. The Farm Women are aware of its medicinal properties and uses. They use its all parts both internally as well as externally in treatment of many common troubles. Through the interactions, I got new information regarding its use. The Farm Women collect the yellow matured leaves of Fudhar and after shade drying convert it into powder. This powder is kept for future use. In treatment of wounds, they apply the leaf powder on wounds. It is considered as one of the promising treatments. In previous articles, I have mentioned that the natives and traditional healers of different parts of Chhattisgarh use the herb parts of Fudhar in different ways in treatment of troubles related to respiratory system. The Farm Women of Mungeli region use its flower in form of sweet dish. The flowers are boiled in Chashni (Sugar syrup) and stored. In case of severe attack of Asthma, the sweet flowers are taken internally. They also use the flowers in normal days to prevent the attack. According to them, the internal use of sweet flowers not only reduces the intensity of attack but also act as body tonic. The traditional healers of Mungeli region are aware of this use. They confirmed its promising effects. When any Fudhar herb grows spontaneously inside the boundary of their home, in general the Farm Women do not uproot it. Although our researchers have kept *Calotropis* in the category of weeds but the Farm Women are not ready to consider it as unwanted plant i.e. weed. I have written a lot about Nili Nirgundi (*Justicia gendarussa*) herb in previous articles. The Farm Women of Mungeli region are aware of its use in treatment of Pneumonia. They collect its leaves and dry it in shade. After drying it is burnt and ash is collected. As treatment, this ash is taken internally with Shahad (Honey). The traditional healers of this region, aware of this use, add more herb ash like ash of Chirchita (*Achyranthes* sp.) with it, in order to make it more potential. The Farm Women are satisfied with the performance of Nili-Nirgundi leaf ash. They suggested that the nature of this ash is hot and it can cause trouble in many cases. Hence, care should be taken

while its use. Doobi (*Cynodon dactylon*), one of the ten worst weeds of the world, is also present in this region. Many senior Farm Women boil the freshly collected Doobi herb in base oil to prepare the special oil. This special oil is used externally in treatment of skin related troubles. As base oil Sarson (Mustard seed) oil is used. The juice of fresh herb is also used for this purpose. In treatment of liver and spleen enlargement, the Farm Women use the roots of another common weed Sarphonk (*Tephrosia purpurea*). The roots are collected and dried in shade. After drying, Harra (*Terminalia chebula*) fruit powder is added in it. The combination is taken internally as treatment.

The Farm Women showed interest in on-going documentation project. They told that no one has never asked them about their knowledge. It means that the early researches have not focused their survey on this important component. I am feeling fortunate to document this important traditional knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 186. Barun Ke Saag.

Varun or Barun is a local name of *Crataeva religiosa*. It is a common tree, cultivated in gardens for its white and pale-yellow flowers in lax terminal corymbs. It is frequently planted near Muslim tombs. Its wood is used for combs. The natives of Chhattisgarh are well aware of this herb but its Saag (Curry), prepared from the leaves, is not much popular among them. The traditional healers are aware of its health benefits. This preparation is considered as a boon for the patients having the problem of obesity. According to the traditional healers, the regular consumption of this Saag reduces the extra fat effectively within very less time. As obesity is a

worldwide problem, I am confident that this traditional knowledge will be of great value for the natives around the world. The healers of Chhattisgarh also recommend this herb to maintain the natural heat balance of human body.

Material Required: Varun leaves, Lason (Garlic), Hardi (Turmeric), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Varun leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Varun, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 169. Medha Singhai (Dolichandrone spathacea, family Bignoniaceae).

The reference literatures on flora claim that Dolichandrone is present in natural forests of Chhattisgarh. During the ethnobotanical surveys conducted in different parts of Chhattisgarh when I showed the photographs and sketches of this tree to the traditional healers and herb collectors, many of them recognized it and informed about its medicinal uses. I have yet not seen it in wild. Its name mentioned in reference literatures Medha Singhai is not correct because from this name *Gymnema sylvestre*, is known among the healers. The traditional

healers and herb collectors have still not coined its local name. In the reference literatures, the use of Dolichandrone seeds as antiseptic is mentioned. The traditional healers of Chhattisgarh use its bark more frequently. Any use of its bark has yet not mentioned in reference literatures. The traditional healers of Northern Chhattisgarh use the decoction of bark in treatment of spleen related troubles. After Malarial fever, many times the spleen get enlarged. The decoction of this herb is considered as a boon for the patients having such trouble. Many healers claimed that there is no promising alternative to this decoction. This specific use provides a reputed position to this herb among the healers. Externally the powdered bark is used in combination with other barks in treatment of skin related troubles. Many healers informed that in such combinations Dolichandrone bark plays the role of harmless filler. The traditional healers of Charama region use the bark to dress the wound, but as other promising alternatives are available, it is used less commonly.

Officially, the names of Dolichandrone plant parts are not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. The herb vendors collect its bark from wild for the traditional healers. This small scale bark collection is not posing any threat on its natural population in wild.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Dhamtari region.**

Through the interactions with the Farm Women of Dhamtari region. I have collected many valuable information on traditional medicinal uses of common herbs. I am giving, the details in present article.

Kali Zeeri or Somraj (*Vernonia anthelmintica*) is well known herb in this part of Chhattisgarh. The Farm Women of Dhamtari region are well aware of many medicinal uses and properties of this herb. In treatment of Bavasir (Piles) they use this herb in unique way. The whole herb is collected and boiled in water. The decoction is filled in tub and patients are advised to sit in this tub. This treatment is considered as a boon for the patients having the problem of bleeding piles. According to them, in most of the cases the patients get rid from this trouble through this simple treatment. Many Farm Women collect and sell its different parts particularly seeds to the local herb traders. As you know Dhamtari is a good market for herbs collected from southern Chhattisgarh, the Farm Women get good price for this collection. They also collect and sell, another *Vernonia* species i.e. *Vernonia cinerea*, that grows as weed. The Farm Women use the fruits of Sindoori (*Mallotus philippensis*) to prepare a special herbal oil. The fruits are boiled in base oil and when all watery contents evaporate the boiling is stopped and oil is kept for future use. As base oil Sarson (Mustard seed) oil is used. This oil is considered as a boon for the patients having skin related troubles. This oil is applied on affected parts as treatment. The Farm Women use this oil in complicated cases. In simple cases, they try to manage the trouble with the help of common herbs like Charota (*Cassia tora*), Bemchi (*Psoralea corylifolia*) etc. Many Farm Women sell this special herbal oil to the herb vendors. Very few traditional healers are aware of this special oil. Many senior Farm Women informed that the seeds of Chandan (*Santalum album*) can be used for abortion. A small cloth bag having Chandan seeds is kept inside the vagina to induce abortion. In general, the Farm Women of this region prefer to use any such herb under supervision of the traditional healers, so that in case of problem, the trouble can be managed without any problem. From documentation point of view it is an important information. The Farm Women are dependent on herb vendors for different plant parts of Nagkesar (*Mesua ferrea*). In treatment of excessive perspiration they use the whole herb of Nagkesar. Whole herb is converted into powder and powder is boiled in water to prepare the decoction. The decoction is used externally during bath. Many times, the powder is directly applied on body before bath and washed during bath. As the collection of whole tree is difficult, the Farm Women use its leaves and flowers for this purpose. Like the natives and traditional healers of other parts of Chhattisgarh, the Farm Women use the seed oil of Nagkesar in treatment of skin related troubles externally. In treatment of Gastritis, they use the decoction of its bark and root in combination with other herbs. This use is very popular among them. In order to stop the vomiting, the Farm Women use the leaf juice of Makoi (*Solanum nigrum*) internally. The traditional healers of this region are also aware of this use. They suggested the addition of equal amount of Adrak (Ginger) juice in Makoi juice in order to get more promising effects. Many times Shahad (Honey) is also added for taste. I have informed the Farm Women about the healer's comments.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. This is good sign that the Farm Women are not only aware of these uses but also they are utilizing this knowledge in their day today life.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Mahasamund region.**

Through the interactions with the Farm Women of Mahasamund region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Like other parts of Chhattisgarh, Charota (Cassia tora) is also a common wasteland weed in this part of Chhattisgarh. The Farm Women are well aware of its medicinal uses and properties. I have mentioned in previous articles that the seeds of Charota are used in treatment of Daad (Ringworm) both externally as well as internally. The Farm Women of Mahasamund region use the seeds in combination with other herbs. In this combination Charota seeds, Karanj seeds (Pongamia pinnata) and Limau Rasa (Lemon fruit juice) are added. This combination is used in form of aqueous paste externally. The paste is applied on affected parts as treatment. According to the Farm Women, this use cures the trouble effectively in very less time. The traditional healers of this region are also aware of this combination. They suggested that the leaf

juice of Mooli (Radish) can also be added in this combination. They further suggested that in normal cases one must use Charota seeds alone, and the combination should be used in case of complications. The Farm Women consume the leaves of Charota as pot herb. They are aware of its blood purifying capacity. Many senior Farm Women informed that in treatment of carbuncle they use a special herbal oil prepared by using Charota leaves. The young leaves are boiled in Andi (Castor seed) oil and when all watery contents evaporate, the boiling is stopped and oil is applied externally in affected part. They have deep faith in this traditional remedy. This was new information for me. Also for many traditional healers. During the survey I have observed that the Farm Women collect the seeds of Charota and sell it to the local herb traders. In this way they are earning additional income from the medicinal weed. Mahua (*Madhuca latifolia*) and Akarkara (*Spilanthes acmella*) are well known herbs in Mahasamund region. The Farm Women mix the whole herb powder of Akarkara in Mahua seed oil and use the combination in treatment of Lakwa (Paralysis). The combination is massaged gently on affected parts. I got opportunities to interact with the patients getting immense relief from this combination during the survey. I have noted that many Farm Women sell this special oil to the herb vendors and also to the healers without disclosing its medicinal properties. Like the natives and traditional healers of other parts of the state, many Farm Women are aware of use of Akarkara leaf juice in treatment of Safed Daag (*Leucoderma*) externally. Many of them use it in combination with Kalihari (*Gloriosa superba*). Akarkara grows as field and wasteland weed during winter season. The issueless couples are advised by the Farm Women to take the flowering bud of Bar (*Ficus benghalensis*) internally as it is a boon for them. As other promising alternatives are available, this use is not much popular.

During the interactions the Farm Women extended their full support and co-operation. This is the reason I got opportunities to meet and interact with the patients getting relief from their traditional knowledge.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 168. Jhar Fanoos (*Kigella pinnata*, family Bignoniaceae).

According to the reference literatures, Jhar Fanoos is a spreading tree with characteristics fruits which are woody, gourd like and hanging on cord-like stalks. It is native to West Africa and is grown as roadside tree. Due to its specific fruits the tree is named as Jhar Fanoos in Hindi. In Chhattisgarh, this tree is present in both wild and planted forms. Its is a matter of surprise that the traditional healers of Chhattisgarh are not much aware of its medicinal properties and uses. Many senior healers informed that this is relatively a new tree for them. This is the reason they have yet not discovered its much uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this tree. I am giving the details in present article. The traditional healers use its fruit, bark and roots as medicine. The bark and roots are used more commonly. The traditional healers specialized in treatment of sex related troubles, add its roots in popular herbal combinations used in treatment of Garma (Syphilis). The roots are used both internally as well as externally. The healers boil the roots in water and prepare a decoction. This decoction is given to the patients to wash the genitals. The healers also add more herbs in it to make the decoction more useful. In treatment of Sujak (Gonorrhoea) the healers use its bark but as other promising alternatives are available, it is used less commonly. In combination with Neem Chhali (bark) and Bemchi Beeja (*Psoralea corylifolia* seeds), the healers of Chhattisgarh Plains use Jhar Fanoos bark internally as blood purifier. All ingredients are mixed in equal proportion. According to them, this combination flushes out the toxic material present inside the body through excreta. This is the reason the healers recommend its use in treatment of skin related troubles.

Officially, the name of Jhar Fanoos is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders informed that they collect it from wild. Its collection from wild is not posing any threat on natural population of this herb at present.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women on Sirpur region.**

Through the interactions with the Farm Women of Sirpur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Bach (*Acorus calamus*) is well known herb in this part of Chhattisgarh. It is locally known as Devnasan. The natural forests of this region are rich in wild population of Bach. The Farm Women are well aware of many medicinal properties and uses of this aromatic herb. Under supervision of the traditional healers, they use Bach rhizome in treatment of Mirgi (Epilepsy). Through the interaction I got new information about this herb. The Farm Women mix Bach powder and Harra (*Terminalia chebula*) fruit powder in equal proportion and the combination is added in fire. This process is done in the room of patients having Malarial fever. They burn the combination twice a day. It is common belief among them that this burning helps the patients in recovery as supplement treatment. Although they are unable to explain the science behind this use but their deep faith in this use is enough to indicate its efficacy. The traditional healers of Sirpur region are also aware of this unique use. They confirmed its promising effects. Harra is well known herb of medicinal importance in this part of Chhattisgarh. Many innovative herb growers have started the commercial cultivation of Bach in this region. The Farm Women are observing the cultivation of wild herb with interest. They prefer the Bach collected from wild as medicine. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the seeds of Kevatch (*Mucuna pruriens*) as sex tonic. The Farm Women of Sirpur region are also aware of this use. The seeds are used alone and in combination with other herbs. The Farm Women use the seeds in combination with Gokhru (*Tribulus terrestris*) fruits. Both herb parts are mixed in equal proportion and taken internally with cow milk. They prefer its use during rainy season. The use of black seeded Kevatch is preferred. The natural forests are rich in Kevatch population. I have observed much diversity among the Kevatch herbs. The sandy lands of Mahanadi river, that flows in this region, are rich in natural population of Gokhru. Many Farm Women informed that they collect both Kevatch and Gokhru plant parts from wild and sell it to the local herb traders. In this way, they get additional income. Although they claimed that Chita (*Plumbago zeylanica*) is present in forests but I have yet not seen it in this region. Many senior Farm Women informed that in treatment of digestive

system related troubles, Chita can be used in combination with Baibirang (*Embelia ribes*) and Gondla (*Cyperus* sp.). They are aware that Chita must be used judiciously. Gumma grows as wasteland and field weed in rainy season. Its scientific name is *Leucas aspera*. It is used as potherb popularly. The Farm Women of Sirpur region use different plant parts of Gumma as medicine. To nullify the harmful effects of Afeem (Opium), the take or give whole herb juice of Gumma internally. The use is continued till complete cure. It is considered as one of promising treatments. In combination with Bahera (*Terminalia bellirica*) fruit powder, the whole herb juice of Gumma is taken internally by them as treatment to respiratory troubles. This use is common among them. They are also aware of its use in treatment of snake bite. Although in reference literatures, Gumma is described as harmful weed but for the Farm Women of Sirpur region it is promising herb that saves their medical expenses to the great extent.

I have noted during the survey that the Farm Women and traditional healers of this region are in close contact. This is common observation in case of other groups like herb collectors and traders. This is the reason, they are aware of each others knowledge and secrets regarding herbs.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Durg region.

Through the interactions with the Farm Women of Durg region, situated in Chhattisgarh Plains, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Mircha (*Capsicum annuum*) is well known condiment crop in this part of Chhattisgarh. It is under commercial cultivation in large areas. As you know, its fruits are extremely pungent and used both green and ripe as spice and condiments and green pods are also pickled. The Farm Women of Durg region use the red fruit of Mircha as traditional medicine. In treatment of dog bite, they prepare a special oil using red fruits. The fruits are boiled in base oil and when all watery contents evaporate, the boiling is stopped and oil is kept for future use. As base oil, Sarson (Mustard seed) oil is used. In case of dog bite, this oil is applied in affected part. According to them, this application destroys the poison and helps in healing the wound effectively in very less time. The Farm Women also use the oil externally in treatment of common headache. In many cases it is used in treatment of Migraine (Adhasisi) also. But as in many cases, it causes skin irritation the oil is used less frequently. The traditional healers of this region are also aware of this special oil. They confirmed its promising effects. As Mircha is cultivated by using agrochemicals, the traditional healers suggested to take special precaution during the selection of red fruits. The red fruits collected from crop fields where organic farming is in progress, are considered the best. I have noted during the survey, that many Farm Women sell this special herbal oil to the herb vendors at fair prices. To hide its true identity they add more herbs in this herbal oil. Many senior Farm Women informed that in treatment of liver related troubles, the flowers of Varun (*Crataeva religiosa*) can be used. They roast the flowers in cow ghee and take it internally as medicine. The healers of this region suggested the use of aqueous extract of Varun flowers. In treatment of joint pains, the Farm Women use the whole herb juice of Bramhi (*Bacopa monnieri*). Bramhi grows in wet and moist areas of this region and the Farm Women are aware of its many medicinal properties and uses. In treatment of ear related troubles, as home remedy the Farm Women use the combination of Haldi (*Curcuma longa*) rhizome powder in combination with Fitkari (Alum). The combination is applied into the ears. In case of complications, they approach to the traditional healers for systematic treatment. In treatment of Morning sickness, a common trouble during pregnancy, the Farm Women of Durg region use the dry leaves of Kalmegh (*Andrographis paniculata*) in powder form, in combination with Shahad (Honey) and sugar. The traditional healers added that this combination also helps in nullifying the harmful effects of alcoholism. This was new information for me. The natural forests of this region are rich in wild population of Kalmegh.

As this region is not having much dense forests, the Farm Women are less aware of forests herbs but the above mentioned traditional medicinal use are unique and from documentation point of view, it is of great importance.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 167. Jangli Piaz (*Scilla indica*, family Liliaceae).

According to the reference literatures, Jangli Piaz is a herb found in almost all parts of India. Its bulbs are source of raticide and drug which is used as an expectorant, stimulant and cardio-tonic in small doses. It is used mainly in chronic bronchitis and asthma. It is also employed in dropsy, rheumatism and skin troubles. Externally it is used for removing corns and warts. In reference literatures, there is a lot of confusion between *Scilla indica* and *Urginea indica*. In many literatures both are described as synonyms but from appearance and botany both species are different. Jangli Piaz (i.e. *Scilla*) can be used as promising alternatives to Gondila (*Urginea indica*). In trade, many times Jangli Piaz is supplied in place of Gondila. The traditional healers of Chhattisgarh have no confusion between Jangli Piaz and Gondila. They use the both species as medicine. For more simplification, I am giving the botany of both herbs. Botanically, *Scilla indica* is a small herb with ovoid globose bulb; Leaves appearing with the flowers, variable, 7.5-15x1.3-2.5 cm, narrowed into a sheathing petiole, dull green above often blotched with black, scape rather stout, 5-12.5 cm long; Flowers in racemes, greenish purple, perianth segments linear oblong; Fruits capsule. Botanically, *Urginea indica* is a herb with avoid or globose bulb, white; Leaves appearing after the flowers, Flat, linear scape erect 30-45 cm (please underline this difference); Flowers in racemes 15-30 cm long; perianth campanulate, stalks long, drooping; Corolla petals lanceolate, light brown (Another major difference); Fruits capsule, ellipsoid, tapering to both ends; seeds flattened black. The traditional healers of Chhattisgarh consider *Scilla indica* inferior to the *Urginea indica*. They use the bulb in treatment of heart related troubles. The natives exhausted by heavy physical exertion are advised by the traditional healers to prepare an aqueous paste using bulb and apply it all over the body. It is considered as one of the promising treatments. In combination with other herbs, in small doses, they use the aqueous extract of bulb to make the hair lice and dandruff free. Many senior natives are also aware of this use. The traditional healers of Chhattisgarh specialized in treatment of respiratory system related troubles are aware of use of Jangli Piaz but as other promising alternatives are available, it is used less commonly.

The dense forest of Chhattisgarh are rich in natural population of *Scilla indica*. Both *Scilla* and *Urginea* are in trade and every year both species are collected in bulk from wild, but the present demand is not posing any threat on its natural population. During the ethnobotanical surveys, I have noted that there are many parts in natural forests from where these species have yet not been harvested.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Charama region.**

Through the interactions with the Farm Women of Charama region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Charama region use Kamal (*Nymphaea nelumbo*) in treatment of many common troubles. In treatment of fever in order to reduce the high temperature they use its seeds. The aqueous extract of seed is given internally many times a day. It is considered as one of the promising treatments. The use is continued till complete relief. Kamal is well known aquatic herb in this part of Chhattisgarh. Jason (*Hibiscus rosa-sinensis*) is a herb of medicinal and religious importance in this region. It is planted in home gardens. In treatment of stomatitis and cough, the Farm Women use its roots. The roots are boiled in water and decoction is

prepared. The decoction is used in form of gargle. In case of chronic cough, they keep the freshly collected root pieces inside the mouth. Both uses are very common among them. Its popularity clearly indicates its efficacy. I have mentioned in previous articles that in many parts of Chhattisgarh Kulthi (*Dolichos biflorus*) is under cultivation as pulse crop and natives and traditional healers consume it internally in treatment of Pathri (Renal Calculi). The senior Farm Women informed that this herb as pulse is also beneficial for the patients having the problem of Safed Pani (Leucorrhoea). This was new information for me. According to them, in early days this crop was under cultivation in this region but it is not difficult to get the seeds for medicinal purposes from neighbouring areas. You will be surprised to know that the traditional healers of Charama region were not aware of this unique use. Later, when I informed them, they tried and found it effective. According to them, it can be used as supplement treatment to main treatment in case of Leucorrhoea. The Farm Women use Kadvi Parwal (*Trichosanthes cucumerina*) in treatment of fever. Its leaves are used for this purpose. The leaf juice is taken internally many times a day. In complicated cases, the Farm Women mix the leaves of Kadvi Parwal and Dhania (Coriander) in equal proportion and boil the combination in water to prepare the decoction. This decoction is taken internally in treatment of fever. The traditional healers of Charama region are also aware of this use. They confirmed its promising effects. For abortion, the Farm Women use the decoction of Karela (*Momordica charantia*) roots, but the roots are used carefully. Karela is grown as vegetable crop in many parts of Chhattisgarh. The dense forests of Charama region are rich in natural population of Patal Kumhda (*Pueraria tuberosa*). Many Farm Women collect its tuber from wild and by selling it to herb collectors and traders, earn an additional income. Patal Kumhda is one of the well known non-wood forest produces of Chhattisgarh. There is a considerable demand of this herb in national markets. The Farm Women are aware of its use in treatment of Gynaecological troubles. They also use its powdered tuber in combination with Til (Sesame seeds) and Shahad (Honey) in treatment of bleeding piles. The tuber powder and Til seeds are mixed in equal proportion and with Shahad taken internally as treatment. The traditional healers suggested that the intake of a glass full of cow milk after taking this combination, helps in proper utilization of his combination inside the body.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling lucky to get opportunity to document this knowledge.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Women of Saraipali region.

Through the interactions with the Farm Women of Saraipali region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Saraipali region use Bael (*Aegle marmelos*) both internally as well as externally in treatment of Bavasir (Piles). Internally, they take the fruit pulp in combination of Mattha (Whey). The use is continued even after the cure in order to prevent the attack of trouble again. Externally, they collect the roots and dry it in shade. After drying, the roots are boiled in water and decoction is prepared. The patients are advised to sit in a tub filled with this decoction. According to the Farm Women both internal as well as external uses cure the trouble effectively in very less time. The traditional healers of Saraipali region are aware of this use. They confirmed its promising effects. Many senior Farm Women informed that in early days they were using the root bark of Bael in combination with cow ghee in treatment of Gynaecological troubles but this use is not much popular now a days. The poor effectiveness may be the reason. Bael is well known tree of religious and medicinal importance in this region of Chhattisgarh. The dense forests in surrounding regions are rich in its natural population. The Farm Women use the flowers of Limau (Nimbu) fruit as medicine. They consider the aqueous extract of flower as promising remedy in treatment of mental trouble. It is also used internally in treatment of common headache. According to them, the flowers can also be used in another way. They roast the flowers in cow ghee and take it internally. This unique use has yet not been reported in reference literatures. During visit I got opportunities to observe its practical uses. The Farm Women of Saraipali region use the leaves of Sudarshan (*Crinum asiaticum*) in treatment of Malarial fever. The leaves are collected and dried in shade. After drying it is converted into powder. This powder is taken internally with Shahad (Honey). The traditional healers of this region suggested that the decoction of leaf powder gives more promising results.

I have conveyed this information to the Farm Women. Sudarshan is planted in as home gardens in this part of Chhattisgarh for its beautiful flowers and also for its medicinal uses. Many Farm Women informed that in treatment of liver related troubles they use the newly emerged leaves of Ama (*Mangifera indica*). The leaves are chewed and juice is swallowed. It is used as supplement treatment to main treatment. In normal days, they never miss to use the leaves in this manner to get protection from liver related troubles round the year. The traditional healers of this region do not consider it much promising. The Farm Women use the bark of Kuchla (*Strychnos nux-vomica*) carefully in treatment of many common troubles. The powdered bark in combination with Limau (Lemon) fruit juice is considered useful in treatment of Enuresis, a common trouble in small children. They informed that in early days they were using this combination in treatment of Haija (Cholera). As its barks possess many toxic materials and wrong dose can lead to death, the Farm Women use this herb less commonly. But from documentation point of view it is an important information.

I have noted during the interaction that the Farm Women of this region are not much aware of medicinal weeds with which they pass most of the time during field work.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Kondagaon region.**

Through the interactions with the Farm Women of Kondagaon region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The dense forests of Kondagaon region are rich in natural population of both Musli i.e. Kali Musli (*Curculigo orchioides*) and Safed Musli (*Chlorophytum* sp.). The Farm Women use both Musli as medicine and also they collect and sell it in local markets. Besides its use as sex tonic, they are aware of its other medicinal properties and uses. Now they are observing the commercial cultivation of Safed Musli. In Kondagaon region, many herb growers have started its cultivation organically. For the cultivation they are using new species *Chlorophytum borivilianum*, that is not found in natural forests of this region. Many Farm Women work in farms where the cultivation of this Hi-tech crop is in progress. One important information I got from the senior Farm Women about Kali Musli was about its time of harvest. According to them, to get more promising effects from this herb, it should be atleast two years old. The tubers collected from young herbs do not show promising effects. The traditional healers of this region are also aware of this fact, but according to them both premature and mature tubers are of medicinal importance. They use one year old tuber as sex tonic and aphrodisiac whereas the two years old tubers are used in treatment of piles, Jaundice, respiratory troubles, diarrhoea and different kinds of pain, besides sex tonic. This was surprising information for me. I personally feel that there is a need of systematic research on this aspect in order to search the scientific explanation. The Farm Women of Kondagaon region are aware of many medicinal uses of Neem tree. Neem is well known tree in this region, having religious and medicinal importance. The Farm Women use Neem seed in powder form in treatment of Bavasir (Piles). The seeds are taken internally with Gud (Jaggery). According to them, the role of Gud is not only to reduce the bitterness but also it plays an important role. The traditional healers of Kondagaon region suggested that this combination can be taken as supplement with main treatment. In treatment of digestive system related disorders, the Farm Women use the decoction of Neem flowers. This decoction is also considered useful in treatment of fever. Many senior Farm Women informed that the decoction can be used as tonic for the patients recovering from exhaustive diseases. Kachnar (*Bauhinia variegata*) is also common herb in this region. In treatment of Dyspepsia, the Farm Women use the decoction of roots internally. According to them, in most of the cases this decoction roots out the trouble and saves the medical expenses. After Abortion, the Farm Women suggest the patients to take the juice of Doobi (*Cynodon dactylon*) internally. The use is continued till complete cure. Like other parts of Chhattisgarh, Doobi grows as wasteland and crop weed in this region. The Farm Women also use it to stop the flow of blood from the injured parts. The juice of whole herb is also considered useful for the patients having the problem of Mirgi (Epilepsy). Like Doobi, Sarphonk (*Tephrosia purpurea*) is also a common weed that grows in wasteland. The Farm Women use its root bark in treatment of stomach pain. The root is collected and bark is separated carefully. The bark is allowed to dry in shade. After drying it is crushed into powder. Kali Mirch (*Piper nigrum*) is added with this bark powder and with the help of water, small globules are prepared. These globules are taken internally as

treatment. These globules can be kept upto long time. During the survey I have observed that the Farm Women are aware of demand of its seeds. They collect and sell it to local shop owners and herb collectors and in this way earn an additional income form this socalled weed.

Many of the above mentioned uses are unique and not reported in reference literatures. I am feeling lucky to document this important traditional knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 185. Chemti Ke Sag.

Chemti or Chemtisag is a local name of *Polygonum barbatum*. It grows as common herb in wet and marshy areas of Chhattisgarh. Its Sag (Curry) is prepared by using its leaves. This preparation is popular among the poor natives. It is consumed due to its specific taste. The common natives are not much aware of its health benefits. The traditional healers of Chhattisgarh recommend this curry specially to the patients having gynaecological troubles. The patients having poor vitality are also suggested to consume this curry.

Material Required: Chemti leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices), Hardi (Turmeric) etc.

Method of Preparation: Oil is taken in pan and it is kept on fire. The Chemti leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Chemtisag, please read my previous articles.

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**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 166.
Chemtisag (*Polygonum barbatum*, family Polygonaceae).**

Chemtisag is well known herb in Chhattisgarh grows in marshy and wet areas. Its leaves and sometimes whole herb are used as Sag (Curry). The traditional healers and herb collectors of Chhattisgarh are aware of its few but important traditional medicinal uses. I have seen this herb in almost all parts of the state. Many other species of *Polygonum* are also present in wild, but as medicinal herb *P. barbatum* is used more commonly by the traditional healers. The herb collectors informed that when during visit to forest for the collection of herbs they get injuries, to stop the bleeding, as styptic they use the root extractor root paste of Chemtisag. Many traditional healers informed that the roots can be used alone or in combination with other herbs in treatment of internal bleeding. The traditional healers of Southern Chhattisgarh use its root in order to reduce the extra heat in side the body. They also use it in smaller doses in treatment of Garma (Syphilis). The healers of Bilaspur region use its seeds in form of aqueous paste in treatment of common headache externally. In reference literatures, the use of seeds internally in treatment of griping pains of colic is mentioned. The healers of Chhattisgarh are not much aware of this use.

Botanically, Chemtisag is a herb with herbaceous and rufous stem; Leaves lanceolate; Stipules sheathing, lax, pillose, truncated, fringed with long bristly ciliate; Spike long, virgate; Flowers hexandrous, trigynous, remote. Officially, the name of Chemtisag (*P. barbatum* syn. *P. stagninum*) is not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. The herb vendors collect its different plant parts from wild for the traditional healers.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Bhanupratappur region.

Through the interactions with the Farm Women of Bhanupratappur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The natural forests of this region is rich in wild population of Dhawai (*Woodfordia fruticosa*) herb. The Farm Women of Bhanupratappur region are aware of many medicinal uses and properties of this herb. Through interaction I got new information regarding the use of Dhawai leaves. The Farm Women use its leaf juice externally in treatment of common headache. Leaves are also used in form of aqueous paste. They informed that it acts promisingly in treatment of headache due to liver related troubles. Many of the Farm Women informed that

they collect this herb and its herb parts from forest and earn by selling it to the herb traders. The traditional healers of Bhanupratappur region are also aware of this use. They confirmed its promising effects in treatment. Like Dhawai, Kalmegh also occurs as natural herb. Its scientific name is *Andrographis paniculata*. Like the natives and traditional healers of other parts of Chhattisgarh, the Farm Women of Bhanupratappur region also use it in treatment of Malarial fever. Many senior Farm Women informed that they prepare a special herbal oil by boiling the Kalmegh leaves in base oil. When all watery contents evaporate, boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) or Sarson (Mustard seed) oil is used. Sarson oil is preferred. This special herbal oil is considered as a boon for the patients having poor vitality. The oil is massaged gently on whole body. It is specially recommended for the patients having Pelea (Jaundice). The patients recovering from exhaustive diseases are advised by the senior Farm Women to use this oil in same manner. I have written on different aspects of Kalmegh in previous articles but this information was new for me. You will be surprised to know that the traditional healers of this region are also not aware of this promising use. I have observed during the survey that many Farm Women sell this herbal oil to the patients and herb vendors at fair prices. The Farm Women also prepare another special oil using Bahera (*Terminalia bellirica*) bark. The bark is boiled in base oil in same manner to prepare this special oil. This special oil is massaged on the body of the patients having the problem of Mirgi (Epilepsy). It is used as supplement treatment to main treatment. The traditional healers of this region are not only aware of this use but they are also using it in their routine practice. They add more herbs in this oil to make it more promising. I have mentioned in previous articles that the leaves of Dhatra (*Datura* sp.) are used as smoke by the natives and traditional healers of many parts of Chhattisgarh to get rid from respiratory troubles specifically in treatment of Asthma. The Farm Women of Bhanupratappur region are aware of this use but they use the Dhatra leaves in combination with Baheda leaves. The leaves of both herbs are collected and dried in shade. After drying, the leaves are crushed and mixed in equal proportion. The combination is burnt and the patients are advised to inhale the fumes. It can also be used in form of Herbal Cigarette. According to the Farm Women, this combination is specially useful for the patients having Phthisis. Its regular use stops the bleeding and haemoptysis. They use the flowers of Baheda internally, in form of decoction in treatment of troubles related to urinary system. The flowers are also used in another way. They roast the flowers with the help of cow ghee and consume it internally. All of these uses were new for me and also for the traditional healers. Baheda is well known non-wood forest produce of this region.

The above mentioned traditional uses are in practice in Bhanupratappur region. I am feeling proud to document this unique knowledge, the Farm Women of this region are having.

Thank you very much for reading the article.

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**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 165.
Nakchhikni II (*Potentilla supina*, family Rosaceae).**

In the name of Nakchhikni many herbs are described in reference literatures. There is a much confusion among the traditional healers and herb collectors about true Nakchhikni. In my previous articles, I have mentioned *Marsdenia volubilis* as Nakchhikni. During the recent ethnobotanical surveys when the traditional healers showed the herb *Potentilla supina* as Nakchhikni, for ease I have named it Nakchhikni II. In present article, I am describing *Potentilla supina*. *Potentilla* is a common herb in almost all parts of Chhattisgarh. Although the traditional healers and herb collectors are aware of its presence in abundance but they are not much aware of its medicinal properties and uses. The traditional healers of Southern Chhattisgarh use its roots and whole herb both internally as well as externally in treatment of bleeding. As first aid remedy, the herb collectors never miss to use this herb as styptic. It is considered very useful in treatment of gynaecological troubles. This is the reason the dry herb is added in popular herbal combinations used in treatment of these troubles. The traditional healers of Chhattisgarh Plains specialized in treatment of Pathri (Renal Calculi) informed that this herb can be used in order to flush out the stones, but as other promising alternatives are available it is used less commonly. The decoction of whole herb alone, in normal case and in combination with other herbs, in complicated cases, is used for treatment. The healers of Mudpar village Shri Hanumat Prasad Verma consider it promising in treatment of joint pains. The above mentioned traditional medicinal uses of *Potentilla supina* have yet not been reported in reference literatures.

According to the reference literatures, botanically it is a sub-erect or diffuse branched annual herb; Leaves pinnately 3-9 foliolate; Leaflets small, obovate, oblong or cuneate, 3-lobulate or incised-serrate; Flowers yellow, solitary, axillary; Achenes numerous smooth. Officially, the name of *Potentilla* is not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders informed that there is a considerable demand of whole herb in dry form. By showing the dry herb, the herb traders

instruct the herb collectors to collect it in bulk. The present collection process is not posing any threat on its natural population.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Pendra region.**

Through the interactions with the Farm Women of Pendra region I have collected many valuable information on traditional medicinal knowledge about common herbs. I am giving the details in present article.

The Farm Women of Pendra region use the whole herb juice of Makoi (*Solanum nigrum*) in combination with fruit pulp of Dhanbaher in treatment of pain due to gout and other reasons. The combination is applied externally on affected parts. It is considered as one of the promising treatments. Makoi grows as wasteland and field weed in this part of Chhattisgarh. Dhanbaher (*Cassia fistula*) is well known tree of religious and medicinal importance. Many Farm Women use the combination externally in treatment of Adhasisi (Migraine) also. The traditional healers of Pendra region are also aware of this use. They confirmed its promising effects and added that the juice collected from herbs having n flower is more promising. I have informed the Farm Women about healer's comment. The Farm Women of this region use the whole herb of Jatamansi (*Nardostachys jatamansi*) in powder form in place of Talcum powder in order to remain refreshed during field work and to remove the bad odour of sweat. They purchase this herb from herb vendors for this specific use. This was new observation for me. They are aware that pure Jatamansi powder is very costly and this is the reason, the adulteration is common but the Farm Women are satisfied with this powder and its performance. On their request, I tried this promising substitute and found it really effective. I personally feel that there is a need to popularize this use particularly among the youths of modern generation. The Farm Women are not aware of other uses of Jatamansi. Like other parts of Chhattisgarh, Koha (*Terminalia arjuna*)

is a common tree in this part also and the Farm Women are aware of its medicinal properties and uses. In treatment of common ear related troubles the Farm Women use the leaf juice of Koha. Few drops of juice is applied into the ears. According to the Farm Women, in most of the cases they get rid from this trouble with the help of this juice. In complicated cases, they approach to the traditional healers for systematic treatment. Many species of Akarkara (*Spilanthes* species) grow in wild in this part of Chhattisgarh. *Spilanthes acmella* is most common species. The Farm Women of Pendra region use this herb in treatment of Mirgi (Epilepsy) as first aid measure. The whole herb is collected and dried in shade. After drying it is converted in to powder and kept for future use. In case of emergency, the powder in combination with Shahad (Honey) is given to the patients with suggestion to inhale it just before the attack. This use is very popular among them. They do not use it internally as treatment. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the same combination internally also to get rid from Mirgi (Epilepsy). In treatment of Scrofula, many senior Farm Women are aware of use of Asgandh (*Withania somnifera*) roots. The roots are converted into powder and in combination with lukewarm water, an aqueous paste is prepared. This paste is applied externally on affected parts as treatment. The traditional healers of Pendra region suggested that the use of cow urine in place of lukewarm water give more promising results. As response to the Healer's comment when the Farm Women tried cow urine, they found it really effective. Asgandh is present in wild in this part of Chhattisgarh.

Through this interaction I got information about some unique uses. It is a matter of appreciation that the Farm Women have deep faith in traditional knowledge and they are willing to alter the formulations, if any correct suggestion comes. This is good sign.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 164. Mahala (*Ailanthus excelsa*, family Simaroubaceae)

According to the reference literatures, Mahala is a beautiful avenue tree, indigenous and common in Central India. It is suitable for growing as wind-breaks and shelter belts. Its wood is used for packing cases, fishing floats, match boxes and splints, writing and newsprint paper. Mahala is known as Tree of Heaven. This tree likes the Heaven in Chhattisgarh and grows naturally in many parts. The natives, traditional healers and herb collectors are aware of its natural occurrence but they are not much aware of its medicinal properties and uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on its traditional medicinal uses. Its roots and barks are commonly used as medicine. The traditional healers of Chhattisgarh specialized in treatment of different types of cancer use its root in form of decoction in popular herbal combinations. As the healers do not disclose the secret formulation and method of use, I am unable to give more details. Many herb vendors confirmed the information that these healers purchase roots from them. The collection of root is lesser as compared to the bark. Shri Vishal Bharat, a well known traditional healer of Bastar region, was also using the root in treatment of cancer. The traditional healers of Nagri-Sihawa region specialized in treatment of fever use its bark in powder form after specific treatment. The specific treatment is done to enrich the medicinal properties of this bark. In reference literatures related to different systems of medicine in India, it is mentioned that its bark is bitter, febrifuge, astringent, stomachic, anthelmintic, antispasmodic and expectorant. It is used in treatment of bronchitis, asthma and dysentery. In combination with other herbs, the senior natives of many parts of Chhattisgarh use its bark to dress the wounds. Botanically, Mahala is a large, fast growing tree with straight and cylindrical stem; Bark light grey, smooth in young trees with large scars; Leaf pinnately compound with 8-14 pairs of leaflets; Flowers small, yellowish in panicles; Fruit one seeded samara, twisted at base. Its wood is in trade in the name of Maharukh.

Officially, the name of Mahala or its different herb parts is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders informed that the collection of its bark is in progress and there is a fair demand of this bark. The roots are collected rarely. In many parts due to over collection of bark, many trees have been died. The herb collectors are aware of non-destructive harvesting methods that are in practice since time immemorial. According to them, the collectors of young generation are not adopting these methods.

The potential use of its roots in treatment of different types of cancer has motivated me to gather more information on different aspects of this tree of Heaven. I will give the details in coming articles.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 152. Dori (*Leptadenia reticulata*, family *Asclepiadaceae*).

Since few years, the popularity of Dori, a much branched twining shrub, is increasing among the traditional healers of Chhattisgarh specialized in treatment of Diabetes. They are using its roots and leaves in popular combinations without disclosing its method of use. The herb vendors, a major source of herbs, for the traditional healers confirmed this information. According to them, the collection has increased many folds due to this demand. Unfortunately the herb collectors are not taking the advantage from this increased demand. Its use in treatment of Diabetes is not reported in reference literatures. I am proud to write that the information on its unique use is coming for the first time in front of world community, through this article. As the traditional healers do not want to talk much about this miracle drug, it is hard to guess the efficacy of this herb in treatment of Diabetes. According to the traditional healers, they are aware of its unique use since time immemorial but in early days there were very less number of patients. Now many patients are coming from big cities. All herbs are not suited for every patient. Due to increase in number of patients, they are searching new alternative. They have found Dori as promising alternatives to existing remedies. Through this article, I would like to request the researchers working to manage Diabetes, to focus their studies on this herb also, so that it can be used for the benefits of whole world community. In reference literatures, the use of Dori plant and leaves as stimulant, restorative, as remedy to ear and nose trouble have been mentioned. The traditional healers of Chhattisgarh are not much aware of these uses.

Officially, the name of Dori is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Raipur region.

In Chhattisgarh, the Farm Women play an important role in agriculture but surprisingly this important component have been ignored by the researchers always. In the series on female herb collectors, you have read about the in depth traditional medicinal knowledge about common herbs and insects, they are having. Like female herb collectors, I have observed that the Farm Women also have rich traditional medicinal knowledge. To document their knowledge since 1997, I am conducting the series of ethnobotanical surveys in different parts of Chhattisgarh. Through these surveys I have collected many valuable information. Later I have categorized this information according to different regions. From this article, I am starting a new series based on Interactions with the Farm Women of Chhattisgarh. In this series, you will find the details of interactions with Farm Women at over 25 regions. In this article, I am giving the details collected from Raipur region.

The Farm Women informed about many traditional medicinal uses of common herbs. In treatment of eye related troubles, they use the roots of Punarnava (*Boerhaavia diffusa*). Punarnava is known as Santhi locally. In treatment of Motiabind (Cataract), the roots are used in combination with Mattha (Whey). The roots are crushed with the help of stone and extract is collected. The extract is added in Mattha and applied into the eyes. The traditional healers of Raipur region are aware of this use. They informed that at initial stage of Motiabind this combination acts promisingly. The healers use this combination as supplement treatment to main treatment. The Farm women also use the whole herb of Punarnava in form of Surma. The whole herb is burnt and ash is collected. This ash is mixed with Surma available in market. The

process of mixing last very long and after complete mixing, the specially prepared Surma is applied into the eyes. This Surma is considered useful in treatment of all eye troubles specially it is considered as a boon for the patients having poor eyesight. During interaction, many Farm Women showed me the Surma. Punarnava is well known herb in this part of Chhattisgarh. It grows as wasteland weed in Raipur region. The Farm Women use different parts of Fudhar (*Calotropis gigantea*) in treatment. In treatment of scorpion sting, they use its leaves in unique way. The leaves are boiled in Sarson (Mustard seed) oil and special oil is prepared. This oil is kept for future use. In case of scorpion sting, the oil is boiled again, a piece of wood is dipped in oil and kept on affected part. This process is repeated many times. According to the Farm Women this application acts as miracle and in few minutes, the patients get rid from this trouble. The Farm Women use other parts of Fudhar also for the same purpose but the leaf oil is considered most promising. You will be surprised to know that the traditional healers of Raipur region were not aware of this use. When I informed them, they tried and found it very effective. In previous articles, I have written a lot about Chench Bhaji. The Farm Women of Raipur region informed me about its new use. They use its seeds in treatment of stomach pain. The seeds are crushed into powder and in combination with Gud (Jaggery), small globules are prepared. These globules are taken internally. These globules are also considered promising in treatment of vomiting. In treatment of open wounds, as home remedy, the Farm Women of this region use the whole herb juice of Van Tula (*Ocimum basilicum*). Van Tula grows as wasteland weed in rainy season. The juice is used to dress the wound. According to them, it is simple but promising use. Its popularity among them clearly indicates its efficacy. Many Farm Women informed that they collect different parts of this weed for sell to the local shop owners and herb collectors. In this way, they are earning from this medicinal weed.

In this series, you will find many such valuable information, mentioned above. I have noted that the Farm Women are well aware of scientific reason behind the use of most of the herbs. They are also aware of its side effects and precautions during use. This is good sign.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 182. Panphuti Ke Chutney.

Panphuti (*Bryophyllum pinnatum*) is well known medicinal herb in Chhattisgarh. The natives and traditional healers of Chhattisgarh have in depth traditional medicinal knowledge about this herb. Panphuti Ke Chutney is prepared by using its leaves. In early days this preparation was very popular. Now a days its use is limited to rural areas only. The natives consume it for its specific taste but the traditional healers of Chhattisgarh are aware of its medicinal uses and health benefits. They recommend this preparation to the patients having liver related troubles. It is also considered good for the digestive system.

Material Required: Panphuti leaves, Zeera (Cumin), Dhania (Coriander), Mircha (Chilli) and Noon (Salt).

Method of Preparation: Panphuti leaves are washed with clean water. The leaves and all other ingredients are mixed and crushed with the help of stone, into fine paste. This fine paste is known as Panphuti Ke Chutney. It is served with meals.

For the botany, traditional and reported medicinal uses of Panphuti, please read my previous articles.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 151. Hartha (*Securinega leucopyrus*, family Euphorbiaceae).

According to the reference literatures, Hartha (*S. leucopyrus* syn. *Phyllanthus leucopyrus*; *Fluggea leucopyrus*) is a thorny, large shrub or small tree distributed in different parts of India. Its fruits are edible and slender branches are reported to be utilized for preparing wicker-baskets and for thatching. The traditional healers and herb collectors of Chhattisgarh are aware of its natural presence in Chhattisgarh. The traditional healers are aware of its germicidal properties since time immemorial. Its leaves are used for this purpose. The traditional healers of Southern Chhattisgarh use the leaves in form of decoction to dress the cancerous wounds. It is also used in combination with other herbs for some purpose. In reference literatures it is mentioned that the paste of leaves combined with tobacco is used to destroy worms in sores. When I informed the traditional healers about this reported use, they replied that alone leaf is capable of treating the trouble. They do not use it with tobacco leaves. Many healers consider the leaf decoction useful externally in treatment of *Bavasir* (Piles) but it is used in very diluted form. The patients are advised to sit in the tub filled with leaf decoction. But as other promising alternatives are available, they use this decoction less commonly. In many parts of Chhattisgarh, the decoction is used to wash the wounds of cattle. It is used as popular veterinary medicine. Unfortunately, the healers are not much aware of other uses of this herb. It is reported as fish poison but it is not used in this form in the state.

The germicidal properties of Hartha motivated me to evaluate its insecticidal properties. With the help of innovative herb growers of Chhattisgarh, I am evaluating its insecticidal properties in commercial cultivation of Indian medicinal and aromatic crops. I will inform about the results, after completing the trials. At initial trials, we have got promising results.

Officially, the name of Hartha is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. But many herb collectors informed that they collect its leaves from wild on specific demand. I am trying to gather more information on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Jashpur region.

Jashpur region is rich in natural bio-diversity. Through the interaction with the Farm Women of Jashpur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of this region are aware of many common uses of pan leaves (*Piper betel*). Its leaves are used as popular masticatory. In treatment of Rataundhi (Night Blindness) the Farm Women use its leaf juice in combination with Shahad (Honey). The combination is applied into the eyes. It is also used in case of Motiabind (Cataract). It is considered as one of the promising treatments. Many Farm Women use the powdered fruits of pan in combination with Shahad internally in treatment of chronic cough. The use is continued till complete cure. The traditional healers of Jashpur region are also aware of these uses. They confirmed its promising effects. I have mentioned in previous articles that in Indian system of medicine, Para (Mercury) is used as medicine but its wrong use causes harmful effects. The farm women particularly the senior Farm women of Jashpur region informed that to nullify the harmful or residual effect of Para, they use the fruit juice of Petha (*Benincasa hispida*) internally. The juice is taken internally many times a day. This use is very effective they informed. Lason (*Allium sativum*) is well known herb for the farm women. They use its bulb or the juice externally in treatment of Daad (Ringworm). It is applied on affected parts. Lason is frequently used as home remedy in this region. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the bark of Sita Ashok (*Saraca indica*) in treatment of gynecological troubles but in different parts it is used in different ways. The Farm Women of Jashpur region use this bark in treatment of Leucorrhoea (Safed Pani). The bark is dipped in water overnight and next morning the combination is boiled to prepare the decoction. This decoction is taken internally. Everyday new decoction is prepared. This use is very popular among them. The traditional healers add more herbs in the decoction to increase its potential. Sita Ashok is well

known herb in this region. In order to mature the immature boils, the Farm Women use the roots of Chita (*Plumbago zeylanica*) in form of aqueous paste. According to them, the aqueous paste, matures the boils and increase the process of suppuration. They also use the roots internally in treatment of common troubles but they do not give its roots in any form to the pregnant women. Its use in such cases can result in Abortion, they warned. In drug markets many Chita based herbal combinations are available for sale in India but unfortunately very few products warn about the precautions that must be taken during its use. It is a rich traditional experience that have made the Farm Women very cautious. The dense forests of Jashpur region are rich in natural population of Chita. Both *P. zeylanica* and *P. rosea* are common in this region but *P. zeylanica* is preferred. The Farm Women use the roots of Kevatch internally as medicine. The roots are collected and dried in shade. After drying it is converted into powder. This powder is kept for future use. In combination with lukewarm water this powder is taken internally in treatment of fever. According to the Farm Women, this use reduces the high temperature and helps the patients to gain the vitality again. They use the decoction of roots in treatment of Paralysis (Lakwa) also. The roots collected before pod formation is considered best. The scientific name of Kevatch is (*Mucuna pruriens*).

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures During interactions the farm women extended full co-operation and shared knowledge with interest. This is good sign.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbuts in Chhattisgarh, India. 125.
Maulsari Ke Shurbut.**

The scientific name of Maulsari is *Mimusops elengi*. Maulsari is a tree having small fragrant flowers that are made into garlands and also yield Maulsari attar. Maulsari Ke Shurbut is prepared by using its fruits. The Maulsari rich areas the natives prepare and consume this Shurbut for its unique taste. The traditional healers are aware of its health benefits. They recommend this Shurbut in treatment of Dysentery. It is considered as one of the promising treatments. To prepare the Shrubut, the juice from ripe fruits is extracted. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The juice and Chashni are added. Once prepared in bulk, it is used round the year. Diluted with water it is taken internally.

For the botany, traditional and reported medicinal uses of Maulsari, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 163. Sukul (*Salix tetrasperma*, family *Salicaceae*).

According to the reference literatures, Sukul is a small to moderate sized deciduous tree with silky pubescent shoot growing gregariously along banks of rivers, streams and wet swampy places throughout greater part of India. Its branches are used for making baskets. The wood is used for house-building, bent wood furniture, cabinet and fancy work. The natural forests of Chhattisgarh are rich in wild population of Sukul. The traditional healers and herb collectors are aware of its natural presence but not much aware of its medicinal properties and uses. The traditional healers consider its related species *S. caprea*, more useful from medicinal point of view. In absence of this species, they use Sukul as promising alternative. They extract the juice from leaves and use it as medicine in treatment of many common troubles. The traditional healers of Chhattisgarh Plains use the leaf extract internally in treatment of fever, but the healers of Nagri-Sihawa region consider the decoction of bark more promising. As other promising alternatives are available, the healers of Nagri-Sihawa region use it less commonly. The healers of Gandai-Salewara region use the leaf extract internally in treatment of heart troubles. It is considered as promising heart tonic. The decoction of leaves is used externally to wash the Piles (Bavasar). The leaf extract is also considered beneficial for liver and digestive

system related troubles. In combination with other herbs, the traditional healers of Sarguja region use the leaf extract in treatment of dysentery. The above mentioned traditional medicinal uses have yet not been reported in reference literatures. According to the reference literatures, botanically Sukul is a small to moderate sized, fast growing, deciduous tree with silky pubescent roots; Bark grayish brown on blackish with rough, vertical fissures; Flowers in lax-flowered male and female catkins, more or less pendulous; Fruit glabrous, 4-6 seeded capsule; Seed grey-blackish brown.

Officially, the name of Sukul is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb traders and collectors informed that there is a considerable demand of its leaves and bark. As its bark is collected and if, in future its demand increase, the destructive harvesting can cause threat on the natural population of Sukul. I am monitoring and studying the impact of wild collection on its natural population.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Women of Bhopalpatnam region.

Through the interactions with the Farm Women of Bhopalpatnam region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women are aware of many important uses of Neem (*Margosa tree*) plant parts. In treatment of small pox they use its leaves in unique ways. The leaves are spread on the bed of patients. The leaves with twigs are hung in doors as a part of treatment. It is common belief among them that these uses help the patients in promising ways. Neem is well known tree of medicinal and religious importance in this part of Chhattisgarh. The Farm Women use Kutaj (*Holarrhena antidysenterica*) bark as traditional medicine. It is recommended specially to women after child birth. According to Farm Women, the internal use of Kutaj bark normalizes the shape of vagina. In form of decoction, the bark is used in treatment of mouth related troubles. The patients are advised to gargle with this decoction. Many Women use the bark of Jam (Guava) in combination with Kutaj bark to prepare the decoction. This addition makes the decoction more promising in effects, Mokhla (*Asteracantha longifolia*) is well known herb for the Farm Women. It grows as wasteland weed in Bhopalpatnam region. The Farm Women informed that in combination with Shahad (Honey) the leaf juice is useful in treatment of chronic cough. The combination is taken internally as treatment. They are aware about the use of Mokhla seeds as sex tonic. In treatment of ear related troubles, the Farm Women prepare a special herbal oil. Bael fruit (*Aegle marmelos*) is used as main ingredient in this special herbal oil. The fruits are crushed with the help of stone and mixed with cow urine. The combination is added in cow milk. The solution is further added in base oil and allowed to boil. When all watery contents evaporate boiling is stopped and oil is kept for future use. This oil is considered very useful in treatment of common ear related troubles. According to the Farm Women, although its method of preparation is complicated but it saves much medical expenses and in most of the times they get rid from ear related troubles effectively. To prepare this oil, as base oil Sarson (Mustard seed) oil is used. Very few traditional healers of this region are aware of this special oil. During the survey I have noted that many Farm Women sell this special herbal oil to the herb vendors without disclosing its secret formulation. In treatment of common cough and cold, the Farm Women use the flower bud of Anar (Pomegranate). The bud is taken internally in combination with Shahad (Honey). It is considered very useful in case of small children. Anar is planted in home gardens in this region. Many Farm Women informed that consumption of Til (Sesame) seeds in any form helps in eliminating all dental troubles. It provides extra strength to teeth. It was new information for me. Til is under cultivation as oil seed crop in Chhattisgarh. To nullify the harmful effects of alcoholic liquor, the Farm Women use the leaf juice of Tinpania (*Oxalis corniculata*). The patients are advised to take the juice internally till complete cure. Tinpania grows as wasteland weed in Bhopalpatnam region. The traditional healers of this region are also aware of this use. They added that the leaf juice is also having the capacity to nullify the harmful effects of Dhatra (*Datura sp.*) poison. Although Gajar (Carrot) is not under cultivation in this region but the Farm Women informed about unique use of its seeds. The seeds are given internally to the pregnant women in order to hasten the process of childbirth.

The above mentioned traditional medicinal uses are very popular among the Farm Women. Its popularity clearly indicates its efficacy. I have noted that the Farm Women have deep faith in traditional knowledge. This is good sign.

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Medicinal herbs of Chhattisgarh, India having less known traditional medicinal uses. 162
Pola (*Kydia calycina*, family Malvaceae).

According to the reference literatures, Pola is a small ornamental tree. Its bark fibre is used for cordage and ropes and mucilaginous substance obtained from stem is used for clarifying sugar. Its wood is used for matches, packing cases, shoe-heels, picture-frames, veneers, plywood, paper and rayon grade pulp. The dense forests of Chhattisgarh are rich in natural population on Pola. In areas where sugarcane is under cultivation, the farmers use it to clarify the juice, during the process of sugar making. The traditional healers and herb collectors of Chhattisgarh are also aware of its presence but they are not much aware of its medicinal properties and uses. In Northern Chhattisgarh, the traditional healers use the stem of this herb in treatment of body pain. The mucilaginous substance obtained from stem is spread on bed, the patient having body pain are advised to lay on it. It is considered as one of the promising treatments. This use is popular among folk drummers. The traditional healers of Southern Chhattisgarh use the leaves of Pola in combination with other herbs, in form of aqueous paste, externally in treatment of common headache. It is also used in treatment of initial stages of Adhasisi (Migraine). Many healers use the leaves alone for the same purpose. In combination with Akarkara (*Spilanthes acmella*) flower and leaves, the healers use its leaves in treatment of mouth related troubles. The herb parts are mixed in equal proportion and decoction is prepared. The patients are advised to gargle with this decoction. Many healers add the dry leaves of Pola in herbal tooth powder. These traditional medicinal uses of Pola have yet not been reported in reference literatures. Botanically, Pola is medium sized tree with very soft wood, sometimes flowering as a shrub; Bark grayish, blaze white with pink margins; Leaves sub-orbicular, sinuate, angled or shallowly lobed with a large gland on the nerves beneath; Flowers copious, in large dense

attractive panicles; Corolla rotate, white or cream coloured with age; Capsules enclosed within calyx, mealy with stellate hairs.

Officially, the name of Pola is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. But the herb traders and collectors informed that this herb is in trade and collected commercially. Its trade is not posing any threat on its natural population at present.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Rajnandgaon region.

Through the interactions with the Farm Women of Rajnandgaon region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Rajnandgaon region prepare a special oil from the leaves of Sudarshan (*Crinum asiaticum*) and use it in treatment of skin related troubles externally. To prepare the oil, the leaves are boiled in base oil. When all watery contents evaporate, the boiling is stopped and oil is kept for future use. As base oil Sarson (Mustard seed) oil is used. According to the Farm Women, once prepared in bulk they use this oil round the year. They manage many common

troubles with this oil and in this way save much medical expenses. I have observed during the survey that many Farm Women sell this special herbal oil to the herb vendors. The traditional healers of Rajnandgaon region are also aware of this use. They confirmed its promising effects. They added that in normal cases freshly extracted juice of Sudarshan leaves also give good results. Sudarshan is well known herb in this part of Chhattisgarh. It is planted as garden plant for its beautiful flowers. Like the Sudarshan oil, they also prepare a special oil using the seeds of Munga (*Moringa oleifera*). The seeds are boiled in base oil in same manner to prepare this herbal oil. They use seed oil in treatment of joint pains. It is massaged gently on joints. In treatment of vertigo, they use the powdered seeds of Munga. The patients are advised to inhale the seed powder. It is considered as one of the promising treatments. In previous articles, I have mentioned that the natives and traditional healers of many parts of Chhattisgarh consume the fruits of Maulsari (*Mimusops elengi*). The Farm Women of Rajnandgaon region are aware of its health benefits. They informed that the internal use of matured fruits cures the trouble of dysentery effectively. This was new information for me. The traditional healers of this region are also not aware of this use. In case of snake bite, as first aid measure the Farm Women use the root bark of Kaner (*Nerium odorum*). According to them, its internal use in small dose produces vomiting and loose motion which flushes out the poison. This use is practiced only at first aid measure and after the arrival of the traditional healers they never miss to take advantage of their expertise in systematic treatment. Kaner is well known herb of religious and medicinal importance in this region. In reference literatures related to different systems of medicine in India, this use is mentioned. This is a matter of appreciation that the Farm Women are practicing the traditional knowledge with faith. The Farm Women are aware of insect repellent properties of Arusa (*Adhatoda vasica*). Like Tulsi (*Ocimum sanctum*) leaves, they use Arusa leaves to purify the water. During Chandra (Lunar and solar Eclipse) and Suryagrahan, they dip the leaves of Arusa in vessels having drinking water. It is common belief among them that the presence of the leaves helps in maintaining the purity of water. They informed that the Arusa leaves kept with fruits stop the rotting. They keep its leaves with wooden cloths in order to protect them from storage insects. Many Farm Women burn the Arusa leaves particularly in rainy days to repel away the flies and mosquitoes. Arusa is also used as medicinal herb by them in treatment of troubles related to respiratory systems. The insect repellent properties of Arusa encouraged me to evaluate its potential insects infesting the medicinal and aromatic crops. The trials are in progress.

The above mentioned traditional uses are unique. It is a matter of appreciation that they are not only aware of these uses but also using it in their day to day life.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 161. Nava Chhali (*Tebebuia pentaphylla*, family Bignoniaceae).

According to the reference literatures, Nava Chhali (in English Roble blanco, Salvador Pink Trumpet; Scientific name *T. pentaphylla* syn. *Tecoma pentaphylla*; *Bignonia pentaphylla*) is a tree native to Central America. It is grown as avenue tree. Its wood is used for furniture, house building, cabinet work and tool handles. In Chhattisgarh, it is planted in different parts. During the ethnobotanical surveys conducted in different parts of Chhattisgarh when I observed the traditional healers collecting its bark, I decided to collect the details regarding its uses. For the traditional healers it is new herb. This is the reason they have named it Nava (New), Chhali (Bark). Very few healers are aware of its medicinal uses and properties. They use the bark in form of decoction, both internally as well as externally in treatment of many common troubles. In combination with other barks, the Nava Chhali bark is used in treatment of fever. They use it specially in treatment of Typhoid fever. The decoction of bark is also considered useful in treatment of urinary system related troubles. It acts as diuretic. The traditional healers of Bagbahera region use the bark to nullify the harmful effects of snake poison after systematic treatment. This unique use has established this herb as an important medicinal herb.

Officially, the name of Nava Chhali is not mentioned in the list of medicinal herb of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information. Through the on-going ethnobotanical surveys, I am trying my best to gather more information on different aspects of this herb. You will find more details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Nagri-Sihawa region.

Through the interactions with the Farm Women of Nagri-Sihawa region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women informed about many common uses of Dhania (Coriander). They boil its leaves in base oil to prepare a special herbal oil. When all watery contents evaporate the boiling is stopped and oil is stored for future use. As base of Coconut (Nariyal Tel) oil is used. In treatment of stomach pain, this oil is taken internally in combination with sugar. The traditional healers of Nagri-Sihawa region are also aware of this use. They added that this special oil can be used externally in treatment of joint pains. This was new information for me. I have informed the Farm Women about the comment of traditional healers for this special oil. They thanked me. Dhania is a well known herb in this region. Like Dhania, Methi (Fenugreek) is also a common herb. The Farm Women use its seeds and leaves as medicine. After field work, to wash the body, they use the decoction of Methi seeds. According to them, the use of decoction makes them extra fresh. They use the leaves in form of aqueous paste in treatment of pains. The paste is applied externally on painful parts. It is considered as a boon for the patients having the problem of Adhasisi (Migraine). I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use different plant parts of Dhawai (Woodfordia fruticosa) as medicine. The natural forests of Chhattisgarh are rich in wild population of this herb. The Farm Women of Nagri-Sihawa region are also aware of its use. They use Dhawai Phool (Flowers) in combination with Rice water in treatment of Bleeding Piles. According to them its internal use stops the bleeding in very less time. The Farm Women are aware of its fair demand in national markets and also about its collection from wild. In treatment of Piles, they also use the whole herb of Bhang (Cannabis sativa). The whole herb is crushed and with the help of cow milk an aqueous paste is prepared. This paste is applied on piles externally as treatment. The use is continued till complete cure. The traditional healers of this region are aware of this treatment. They confirmed its promising effects. To smoothen the effect of over sexual excitement the Farm Women of Nagri-Sihawa region are aware of use of Kapoor (Camphor). According to them its internal use helps them to get rid from this trouble. They also suggest its use to their male partners. In general, they take Kapoor internally in order to get

sound sleep. The Farm Women use the fruits of Van Bhata (*Solanum indicum*) in treatment of common headache. Van Bhata grows as wasteland weed in this part of Chhattisgarh. The fruits are crushed and with the help of water, an aqueous paste is prepared. This paste is applied on painful parts. This use is very popular among them. Its popularity clearly indicates its effectiveness. When we started discussion on Andi (*Ricinus communis*) herb, many of them informed that they use the combination of Andi seed oil in combination with Dhikuar Rasa (Aloe vera juice) externally in treatment of Piles. Both Andi and Dhikuar are well known herbs in Nagri-Sihawa region. In treatment of Piles, they also use the Doodh (Latex) of Thura (*Euphorbia neriifolia*) and Haldi (*Curcuma longa*) rhizome powder. Both herbs are mixed and in this combination, a white coloured string is dipped. After drying, more solution is added. This process is continued upto a week. After this duration, string is taken out and tied carefully at the base of warts. Within few days the warts (Masse) shatter down and the patients get rid from this trouble.

The in depth traditional medicinal knowledge about the herbs particularly about the herbs used in treatment of Piles the Farm Women of Nagri-Sihawa region are having, is matter of surprise and appreciation. I am feeling lucky to document this important knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 184. Choupatia Ke Saag.

The scientific name of Chaupatia is *Blepharis edulis*. It is well known herb in Chhattisgarh. Choupatia Ke Saag is prepared by using its leaves. Among the natives this Saag (Curry) is popular for its unique taste. The traditional healers of Chhattisgarh are aware of its health

benefits. It is specially recommended to the patients having troubles related to respiratory system. Many healers recommend this preparation to the patients having skin related troubles. It is also considered beneficial during treatment of fever. The traditional healers of Southern Chhattisgarh use this preparation as supplement treatment to main treatment. The patients or natives having the problem of constipation are advised by the healers to avoid its use.

Material Required: Choupatia leaves, Lason (Garlic), Tel (Oil), Hardi (Turmeric), Namak (Salt), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. A Choupatia leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked rice).

For the botany, traditional and reported medicinal uses of Choupatia please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 160. Rohini (Soymida febrifuga, family Meliaceae).

According to the reference literatures, Rohini is a tree distributed in central and peninsular India. The red fibre obtained from bark is used for ropes. Its bark yields gum and tannin. Its wood is used for carving, furniture and paneling. The wood pulp is used for wrapping paper. The natural forests of Chhattisgarh are rich in wild population of this herb but the traditional healers of the state are not much aware of its medicinal uses and properties. This is the reason, I have kept

this herb in the category of herbs having less known traditional medicinal uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on its traditional uses. The traditional healers of Nagri-Sihawa region are aware of the use of its bark in treatment of fever. Many healers informed that besides its bark, its root can also be used for the same purpose. In combination with other herbs, the traditional healers of Gandai-Salewara region use its bark in treatment of respiratory troubles. It is considered as a boon for the patients having bronchitis. In form of gargle, the decoction of bark is used in treatment of stomatitis. The traditional healer of Bilaspur region use the aqueous extract of bark in treatment of Bavasir (Piles). The extract is applied externally in case of bleeding piles, in order to stop the bleeding. The fumes of burning bark is considered beneficial for the patients having Epilepsy (Mirgi). The reference literatures related to different systems of medicine are full of information regarding medicinal uses and properties of this herb. According to Ayurveda, bark is acrid, astringent, anthelmintic, aphrodisiac, laxative and good for sore throat, ulcers, leprosy and dysentery. It cures fevers, cough and asthma. According to Unani system of medicine, bark is astringent to bowels and useful in fever.

According to the reference literatures, botanically Rohini (*Soymida febrifuga* syn. *Swietenia febrifuga*) is tree; Leaves clustered at the tips of branches, paripinnate, upto 40 cm long and midrib red; leaflets 3-6 pairs, obliquely elliptic; Flowers in large terminal panicles, white; Fruits pendulous, 5-valved. Flowering and Fruiting time March to April in Chhattisgarh conditions.

Officially, the name of Rohini is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets, but the herb collectors and traders informed that its bark is in trade for medicinal purposes.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Narharpur region.

Through the interactions with the Farm Women of Narharpur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Narharpur region informed about unique use of feathers of well known bird Neel Kanth (Blue Jay). The feathers are collected and in combination with wheat flour (Gahun Ata), small globules are prepared. These globules are taken internally. It is considered as one of the promising treatments of intestinal worms. According to them, few doses flush out the worms effectively. In larger doses they use the combination in treatment of same trouble of cattle. This was new information for me. The traditional healers of Narharpur region were not aware of this promising use. In previous articles I have mentioned that Zillo (*Vicia hirsuta*) grows as winter season weed in crop fields and natives and traditional healers have in depth traditional medicinal knowledge about this weed. The Farm Women of Narharpur region are also aware of this herb. Many senior Farm Women informed that its internal use nullifies the effects of poison and through motion, flushes it out. Zillo is a popular breakfast during field work for them. The Farm Women are aware of many traditional medicinal uses of Aparajita (*Clitoria ternatea*). In treatment of Adhasisi (Migraine) they use its root powder in combination with cow ghee and Gud (Jaggery). All ingredients are mixed in equal proportion. The combination is taken upto one week. The Farm Women claim that within week this combination cures the trouble. The traditional healers of this region are aware of this use. They use it as supplement treatment to main treatment. They also informed that at initial stages this combination gives promising results. In treatment of troubles related to urinary system, the Farm Women use the roots of Aparajita in combination with Punarnava (*Boerhaavia diffusa*) and Kukronda (*Blumea lacera*) roots. All roots are collected and dried in shade. After drying the roots are crushed into powder. Different women suggested different ratios but in general they mix Aparajita, Punarnava and Kukronda roots in 1:2:1 ratio. Many times they add Kali Mirch (*Piper nigrum*) also. The combination is taken internally daily morning empty stomach. The use is continued till complete cure. Like the Farm Women of Ambikapur region, they also use Aparajita in treatment of boils but they use the root juice in combination with Sirka (Vinegar). The combination is applied externally. They also use the leaf juice for the same purpose. In treatment of digestive system related troubles they use the fresh leaves of Tinpania (*Oxalis corniculata*) internally. Tinpania grows as wasteland weed in this part of Chhattisgarh. The Farm Women informed that many

animals are also aware of this use particularly the dogs. They are also aware of use of Tinpania leaves externally in treatment of skin related troubles specially in treatment of Ringworm.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. Its popularity among them indicates its effectiveness.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 159. Kidimar (*Duranta repens*, family Verbenaceae).

According to the reference literatures, Kidimar is an evergreen shrub or small tree, native to South America and West Indies, grown as hedge plant. In Chhattisgarh it is planted popularly. For the traditional healers and natives of Chhattisgarh it is new plant. They are not much aware of its medicinal properties and uses. The cattle owners of the state use its leaf decoction to wash the cattle in rainy season. This is the reason they have named it as Kidimar. Kidi means insect, mar means to Kill. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted few but important traditional medicinal uses of this herb. You will be surprised to know that in many parts of the state it has escaped in the wild from gardens. This escape helped the traditional healers to search its new medicinal uses. In combination with other herbs, the traditional healers of Narharpur region use the decoction of leaves in treatment of fever, internally. Like Charota (*Cassia tora*) seeds, the crushed seeds are used as remedy to Ringworm in many parts. The seeds are used to dress the wounds in Northern Chhattisgarh but as other promising alternatives are available, it is used less commonly. From documentation point of view it is an important information. In combination with cow milk, the leaf juice of

Kidimar is massaged on soles of leg as treatment to Insomnia. The traditional healers of Tilda region are using this combination commonly.

Officially, the name of Kidimar is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Farm Women of Kavardha region.

Through the interactions with the Farm Women of Kavardha region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women use Haldi (*Curcuma longa*) rhizome powder frequently in treatment of many common troubles. They mix Haldi powder with fruit powder of Aonla (*Phyllanthus emblica*) in 1:2 ratio and take it internally. This powder is used internally in treatment of skin related troubles. It is considered as one of the promising blood purifiers. In general, the Farm Women suggest the natives to take this combination upto one month in any part of the year in order to get protection from skin related troubles round the year. The traditional healers of Kavardha region are aware of this use. They have confirmed its promising effects. The Farm Women prefer the wild fruits of Aonla rich in fibres to prepare the combination. In treatment of Safed Daag (*Leucoderma*), the

Farm Women use Haldi in combination with Bemchi beeja (*Psoralea corylifolia*). Bemchi seeds are converted into powder before use. Both herb powders are mixed in equal proportion. This combination is used both internally as well as externally. Internally, the combination is taken in form of small globules whereas externally, it is applied on white spots as an aqueous paste. Both uses cure the trouble effectively in very less time. The Farm Women use the freshly collected rhizome of Haldi in form of aqueous paste in treatment of Adhasisi (Migraine). According to them, this paste reduces the intense pain. Like Haldi, they are also aware of many important uses of medicinal weed Hurhur (*Cleome viscosa*). Hurhur grows as wasteland weed in this part of Chhattisgarh. Many Farm Women confirmed that they sell different plant parts of Hurhur to the herb collectors and traders and earn an additional income. In treatment of syphilitic wounds, the Farm Women are aware of use of Hurhur leaves. The juice is extracted by crushing the leaves and taken internally many times a day. The leaves after the extraction of juice, are converted into aqueous paste and applied on wounds. You will be surprised to know that the traditional healers of Kavardha region were not aware of this important use. When I informed, they tried and found it really promising. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the leaves of Hurhur in combination with Kali Mirch (*Piper nigrum*) in treatment of Malarial Fever. It is taken at the commence of the fever. The Farm Women of Kavardha region are aware of this use. They use the combination of Hurhur seeds and leaves in treatment of common headache. The seeds are crushed and with the help of leaf juice, an aqueous paste is prepared. This paste is applied externally on painful parts. This paste is also considered useful in treatment of Migraine. Many senior Farm Women informed me about unique herbal oil having promising effects in treatment of joint pains. To prepare this oil, the whole herb juice of Gokhru (*Tribulus terrestris*), cow milk Gud and Adrak (Ginger) juice are mixed in Til (Sesame seed) oil. All ingredients are mixed in equal proportion, whereas Adrak juice is taken in one tenth amount and Gud is taken in one fourth amount. The combination is boiled upto long time. When all watery contents evaporate the boiling is stopped and oil is kept for future use. In little amount, this oil is massaged gently on painful parts. Many Farm Women prepare this oil in bulk and sell it to the herb vendors. I have tried the oil and found it very effective against all types of pain besides joint pain. All the ingredients used in oil, are commonly available and this is the reason, they have not to invest much on oil. The traditional healers of Kavardha region are aware of this oil. They suggested the addition of more herbs in it to make the oil more promising.

During the interaction, the Farm Women extended full co-operation and showed interest in on-going documentation work. This is good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 158. Ganga Amli (*Pithecellobium dulce*, family Mimosaceae).

Since childhood I am fan of its edible seed aril. Ganga Amli is well known herb in Chhattisgarh. It grows as both wild and cultivated tree. Although it is consumed for sweet seed aril but many senior natives are aware of its medicinal values. The seeds are considered promising in treatment of troubles related to urinary system. The patients having such problems are advised to consume more sweet arils as treatment. The traditional healers of Chhattisgarh are aware of its few but important traditional medicinal uses. They use its bark very commonly. The decoction of bark is used internally in treatment of fever. It is considered useful in treatment of Malarial fever. In combination with other herbs, the dry bark is added in popular herbal combinations used as tonic. In diluted form, many healers recommend the use of bark decoction to wash the affected parts in case of skin troubles. These uses have yet not been reported in reference literatures.

According to the reference literatures, botanically, Ganga Amli is medium-sized evergreen tree; branches grayish; leaflets two on each pinna, obliquely elliptic; Flowers greenish-white in paniced globose heads; Corolla 3-4.5 mm long, petals united below the middle; Pods turgid, spirally twisted (This is the reason behind its Hindi name Jangle Jalebi), velvety pubescent; Seeds 6-8, black, enveloped in white fleshy edible aril. Every year, the natives collect the pods from wild and sell it at the local markets. Also, it is transported to neighbouring states.

Officially the name of Ganga Amli is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about different Shurbut in Chhattisgarh, India. 124.
Panphuti Ke Shurbut.**

Panphuti is a local name of *Bryophyllum pinnatum*. The traditional healers of Chhattisgarh prepare this Shurbut for medicinal purposes. The Shurbut is prepared by using its leaf juice. The common natives are not much aware of this preparation. The traditional healers consider this Shurbut useful in treatment of all types of bleeding. It is considered as a boon for the patients having the problem of Bavasir (Piles) specially the bleeding piles. The traditional healers of Southern Chhattisgarh use this Shurbut in treatment of Dysmenorrhoea. The patients having poor vitality are not advised by the healers to take this Shurbut. To prepare the Shurbut, the leaves are washed thoroughly and with the help of stone juice is extracted. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The leaf juice and syrup are added. The combination is known as Panphuti Ke Shurbut. Diluted with water it is taken internally round the year as per recommendations of the healers.

For the botany, traditional and reported medicinal uses of Panphuti please read my previous articles.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Gandai-Salewara region.**

Through the interactions with the Farm Women of Gandai-Salewara region. I have collected many valuable information on traditional medicinal uses of common herbs. This region is rich in natural diversity. I am giving the details in present article.

The Farm Women of this region are aware of many medicinal uses and properties of Bathua (*Chenopodium album*). Bathua grows as winter season weed in this part of Chhattisgarh. The Farm Women have kept this herb in the category of medicinal weeds. Like the natives and traditional healers of other parts of Chhattisgarh, they prepare different herbal dishes using Bathua plant parts. It is a popular pot herb. Many Farm Women collect its different parts particularly its seeds and sell it to the herb traders and earn an additional income. The Farm Women informed that in treatment of burns, they use the fresh leaf juice of Bathua externally as first aid measure. In treatment of Carbuncle they use the leaf juice in combination with the flowers of Kukronda (*Blumea lacera*). Both herb parts are crushed and mixed to prepare an aqueous paste. This paste is applied in Carbuncle as treatment. Kukronda is a common wasteland herb in this region. The traditional healers of Gandai-Salewara region are also aware of this use but they suggested that in place of *Blumea* flowers, *Tambhakku* (Tobacco) flowers can be used in order to get more promising results. As Tobacco is not under cultivation in this region, it is very difficult to get the flowers. Possibly, this is reason the Farm Women have adopted *Blumea* flower as promising and cheap alternative. Many senior Farm Women informed that this combination can be taken internally also. For internal use cow ghee is also added in it. According to them both internal as well as external treatments cures the troubles effectively in very less time. In treatment of Jaundice (*Pelea*), the Farm Women use the whole herb juice of Bathua in combination with Shahad (Honey) internally. This internal use induces the vomiting. They use the powdered seeds with Shahad (Honey) in treatment of intestinal worms. This use is popular in other parts of the state also. Many Farm Women informed that in treatment of stomach pain they use Bathua leaf juice in combination with Rock salt. The combination is applied around the umbilicus (*Boddi*). It is considered as simple but promising use. The traditional healers preferred the juice of boiled leaves more promising. Bathua is a common weed in Wheat growing regions of the world. Every year the farmers of other regions unaware of its medicinal and economical importance, use agrochemicals to destroy this so-called weed. The

example of Farm Women of Gandai-Salewara can teach them a lot that how one should tackle these unwanted guests in crop fields. The Farm Women informed that the decoction of Bait (Calamus rotang) in combination with Sonth (Dried Ginger) and Kali Mirch (Piper nigrum) is a boon for the patients having respiratory troubles specially Asthma. The decoction is taken internally, but as other promising alternatives are available this decoction is used less commonly. From documentation point of view it is an important information. To mature the immature boils, the Farm Women of Gandai-Salewara region use the leaves of Ghabel (Argyria nervosa). The Farm Women also use the leaves in treatment of open wounds. According to them, it has unique property to dry the pus in very less time. Ghabel is well known herb in this part of Chhattisgarh. When I showed them a photograph of Coleus, they identified it as Patharphodi. They informed that it is used by healers in treatment of Pathri (Renal Calculi). Many senior Farm Women informed that the leaves of Blumea (Kukronda) act as miracle in treatment of brain tumor at advanced stage. They are not aware of the word Brain tumor but through their description I got this name. As I have yet not seen its practical use, I am not much sure about this use.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am feeling fortunate to document this knowledge.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Ambikapur region.**

Through the interactions with the Farm Women of Ambikapur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Ambikapur region are aware of many promising medicinal properties and uses of Aparajita (*Clitoria ternatea*). Aparajita is a rambling climber, grown in hedges or on walls. The Farm Women informed that in treatment of Fevers due to septic boils and wounds, they use the juice of Aparajita leaves in combination with Adrak (Ginger) juice. Both juice are mixed in equal proportion and taken internally as treatment. It is considered as one of the promising treatments. The Farm Women suggest the natives having the problem of habitual abortion to take leaf juice in combination with goat milk. The combination is taken many times a day. The traditional healers of Ambikapur region are aware of this use. They confirmed its promising effects. In treatment of Safed Daag, the Farm Women use different plant parts of Aparajita both internally as well as externally. Externally its roots are used. The roots are collected and with the help of water crushed into aqueous paste. This paste is applied on white spots. Internally, its seeds are used. The seeds are roasted with the help of cow ghee and taken internally. In complicated cases they add Bemchi seeds (*Psoralea corylifolia*) in it. Bemchi grows as winter season weed in this part of Chhattisgarh. Many senior Farm Women informed that in treatment of Pelea (Jaundice) its roots can be used. The roots are collected and dried in shade. After drying the roots are converted into powder and kept for future use. As treatment the powdered roots are taken in combination with Mattha (Whey), internally. The traditional healers of Chhattisgarh use this combination as supplement treatment to main treatment. The Farm Women use the root in face care also. The dried roots are burnt and ash is collected. In form of aqueous paste this ash is applied on face. It removes black spots effectively. This use is becoming popular among the natives of young generation. The leaf juice raw and in form of decoction is applied on open wounds in order to increase the healing process. In treatment of small pox, the Farm Women of Ambikapur region use many herbs and herbal combinations. Many senior Farm Women informed that the seeds of wild species of Kela (Wild Banana) are promising in treatment of small pox. The seeds are given internally as treatment. I have mentioned in previous articles, that the natives and traditional healers of many parts of Chhattisgarh use wild Banana seeds as preventive to small pox. The Farm Women of this region are also aware of this unique use. The Farm Women search and collect the leaves of Doomar (*Ficus glomerata*) having small pox like spots. The specific leaves are crushed and juice is extracted. This juice is considered as a boon for the patients. This was new information for me. I am proud to document this important traditional knowledge. They also use the bark of Reetha (*Sapindus emarginatus*) both internally as well as externally in treatment. The aqueous extract of bark is taken internally whereas in form of aqueous paste bark is applied externally on blisters. According to them, both internal as well as external uses cure the trouble effectively in very less time.

It is beyond the imagination to expect such in depth traditional medicinal knowledge about common herbs from the Farm Women. This information is new for many traditional healers in Chhattisgarh.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 157. Chalta (*Dillenia indica*, family Dilleniaceae).

According to the reference literatures, Chalta (in English Elephant Apple) is a medium sized tree occurs naturally in many parts of India. It is under cultivation also. Its fruits are made into jams and jellies and wood is used for packing cases, railway sleepers and ply wood. The dispersal of seeds is helped by elephants which are fond of fruits. In Chhattisgarh the natural forests are rich in its wild population. The natives consume its fruit with taste and use it in preparation of different dishes. The natives of Ambikapur and Jashpur region confirmed that the Elephants are fond of its fruits. These regions have wild population of Elephants. Although Chalta is a common tree in different parts but it is a matter of surprise that the traditional healers are not much aware of its traditional medicinal uses and properties. Besides fruits, they use its leaves and bark in treatment of common diseases. According to the traditional healers of Bastar region, the bark in combination with other herbs can be used in treatment of all types of internal bleeding. The traditional healers of Narharpur region suggest the patients having the problem of Leucorrhoea to wash the vagina with the decoction of bark. The decoction is diluted with water according to the condition of the patients. The herb collectors use its leaves as styptic but as other promising alternatives are available, the leaves are used less commonly. The healers of Chhattisgarh Plains use the leaves in popular combinations used externally in form of aqueous paste, in treatment of Headache particularly Adhasisi (Migraine). In many parts of Chhattisgarh, the cattle owners use the decoction of leaves to wash the cattle in rainy days and to dress the open

wounds. In reference literatures it is mentioned that the syrup of the juice of unripe fruits allays cough, assists expectoration and cures angina and stomatitis. The healers of Chhattisgarh are aware of these reported uses.

According to the reference literatures, botanically, *Dillenia indica* (Syn. *D. elliptica*) is an evergreen tree; Leaves oblong, acute or acuminate, margins dentate; Flowers solitary, pendent; Fruits yellowish-green with enclosed sepals; Seeds reniform, black, margin spiny. Three species of *Dillenia* are reported in Chhattisgarh.

Officially, the name of Chalta is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets, but many herb collectors and traders informed that it is in trade. Through the on-going ethnobotanical surveys, I am trying my best to gather more information on different aspects of this herb.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 156. Ajmod (*Apium graveolens*, family Umbellifereae).

Few years back, many innovative herb growers of Chhattisgarh tried its commercial cultivation with little success. Although the traditional healers and herb collectors of many parts of the state, claim that this herb is present in wild but the reference literatures on flora do not support

this information. Possibly, the herb the healers and collectors have observed have escaped from the cultivated fields. The traditional healers are aware of few medicinal uses and properties of this herb. But in reference literatures related to different systems of medicine in India, Ajmod holds a reputed position as medicinal herb. According to Ayurveda, its seeds are stomachic, aphrodisiac, tonic, astringent to bowels, improves appetite and good for heart and useful in treatment of ophthalmia, bronchitis, vomiting, hiccup, rectal troubles, ascites, abdominal pain, toothache, tumours etc. According to the Unani system of medicine, the seeds are carminative, laxative, appetizer, anthelmintic, abortifacient, good in ophthalmia, scabies, scorpion and other stings, cure asthma, vomiting, heart and spleen diseases, amenorrhoea, urinary discharges, fever with cough, rheumatism, chest pains, inflammations, nasal catarrh etc. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I got some special comments regarding this herb from the traditional healers. I am giving the details. The traditional healers of Chhattisgarh Plains informed that its roots can also be used in treatment of common diseases. It is good for respiratory trouble but one must use it carefully as wrong use may result in damage to lungs. The traditional healers of Southern Chhattisgarh warned that Ajmod must not be used in any form in treatment of patients having Mirgi (Epilepsy). It aggravates the trouble. The healers consider its roots useful in treatment of Pathri (Renal Calculi) also. The healers of Gandai-Salewara gave opinion that the roots as well as seeds are good for digestive system related troubles.

Botanically, Ajmod is a biennial herb; Leaves radial, pinnate with large deeply lobed segments, cauline 3-partite, segment once or twice trifid, apex toothed; Flowers in umbels, ray 5-10, pedicels 6-16; Fruits ridges narrow, vittate broad.

Officially, the name of Ajmod is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb collectors and traders confirmed this observation.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Farm Women of Jagdalpur region.**

Through the interactions with the Farm Women of Jagdalpur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Farm Women of Jagdalpur region informed about many popular uses of Haldi (*Curcuma longa*) as medicine. Haldi is under cultivation in this part of Chhattisgarh. Haldi rhizomes are used as home remedy. In treatment of immature boil, the Farm Women use Haldi powder in combination with Alsi (Linseed) seeds. The combination is applied on immature boils many times a day. According to them, within few days they get rid from this trouble. Alsi is under cultivation as winter season oil seed crop. Many senior Farm Women informed that they use the cloth coloured with Haldi rhizome in treatment of eye related trouble. The patients are advised to see this coloured cloth upto long time. According to the Farm Women, this seeing gives soothing effects to eyes and reduces the tension. It is used as supplement treatment to main treatment. In normal days, this use is practiced. I have tried it successfully many times. Now, I am searching the science behind this use. The patients having liver related troubles are advised by the Farm Women to take the combination of Haldi powder and Dahi (Curd). It is specially recommended for the patients having Jaundice (Pelea). I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use Haldi alone or in combination with other herbs both internally as well as externally in treatment of Jaundice. But the information given by the Farm Women of Jagdalpur region was new information for me. The traditional healers of Jagdalpur region are aware of these uses. They confirmed its promising effects. In treatment of Dysentery, the Farm Women are aware of use of Chhui Mui (*Mimosa pudica*) roots. The roots are collected and crushed with the help of stone. The aqueous extract is taken internally as medicine. According to them, in complicated cases of Dysentery this extract acts in miraculous way. Chhui Mui grows as wasteland herb in this part of Chhattisgarh. The Farm Women use the roots of Punarnava (*Boerhaavia diffusa*) in different ways to treat the problem of eyes. In case of normal itching, the roots are mixed with cow milk and the solution is applied into the eyes. In case of Motiabind (Cataract), they use the roots in combination with oil in same way. They also prepare a paste by mixing Cow ghee with aqueous extract of roots. This paste is applied into the eyes. The Farm Women try to manage the troubles with Punarnava roots but in case of complications they approach to the traditional healers without any delay. Many of the uses of Punarnava are reported in reference literatures. This is good sign that the

Farm Women are still using this traditional knowledge. Punarnava grows as wasteland weed in this part. Many Farm Women informed that they sell the dry herb to herb collectors and traders. This is the reason they have kept this so called weed in the category of medicinal weed. In treatment of Asthma (Dama), the Farm Women use the roots of Fudhar (*Calotropis gigantea*). The roots are dried in shade and crushed into powder. This powder is taken internally with Kali Mirch (*Piper nigrum*) as treatment. They use it both as curative and preventive to Asthma. Many senior Farm Women informed that its use is not so simple. They give emphasis on collection of best roots for preparation of combination. The old herbs are selected and among bitter roots the most bitter roots are taken for drying. In mixing, they take special precaution. The root powder and Kali Mirch are mixed thoroughly many times. Some times they also add sugar in it to make the combination consumable. The traditional healers are also aware of this use but they prefer other herbs and herbal combinations to manage this trouble.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 149. Chilla (*Casearia elliptica*, family Flacourtiaceae).

According to the reference literatures, Chilla is a shrub or small tree distributed all over India. Its wood is used for making combs and bark yields tannin. This herb is present in natural forests of Chhattisgarh. The traditional healers and herb collectors are aware of its presence and they are using it as medicine. The healers use its bark more commonly. The bark is used in form of decoction. The traditional healers of Kanker region informed that the decoction of bark can be used in treatment of stomatitis. The traditional healers of Bilaspur region informed that its bark is rich in calcium and like Koha bark (*Terminalia arjuna*) it can be used in treatment of bone fracture both internally as well as externally, but the healers prefer the Koha bark. They also use the decoction of bark externally in treatment of Piles. The patients are advised to sit in tub filled with this decoction. In reference literatures, its uses as diuretic, fish poison and in treatment of

dropsy are mentioned but the above mentioned traditional medicinal uses have yet not been reported. Although officially its name is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders deny it.

According to the reference literatures, botanically, Chilla is small tree with tomentose branches; Leaves oblong to lanceolate, tomentose; Flowers in cluster, capsule 6 angular, ellipsoid, soft green; Seeds many, embedded in red pulp. In many parts of Chhattisgarh its roots and fruits are used as narcotics.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Nagri-Sihawa region.**

Through the interactions with the Rice farmers of Nagri-Sihawa region. I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of this region are well aware of many medicinal properties and uses of Hurhur (*Cleome viscosa*). Hurhur occurs as wasteland weed in this part of Chhattisgarh. In treatment of Tonsillitis, they use the leaves of Hurhur in combination with Lason (Garlic). Both herbs are boiled in water and decoction is prepared. . They use it many times a day. The use is continued

till complete cure. Many farmers use it externally also. They prepare a herbal combination by mixing Hurhur leaves and Lason bulb. This combination is converted into aqueous paste and applied externally on throat. I have observed that both internal as well as external use at a time cures the trouble effectively in less time. During interaction I informed them about the use of Dhanbahar bark decoction in treatment of same trouble. Its is in use in many parts of Chhattisgarh. The Rice farmers use the seeds of Hurhur to nullify the harmful effects of poison. After complete treatment of snake bite and scorpion sting by the traditional healers, the Rice farmers take the seeds of Hurhur in combination with cow milk many times a day. The seeds are taken internally in form of powder. This use is considered as one of the promising treatments. Many Rice farmers confirmed that they sell its different plant parts to the herb collectors and small traders and earn an additional income. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh prepare a special oil from Haldi (*Curcuma longa*) rhizomes and use it in treatment of Sujak (Gonorrhoea) internally. To prepare this oil, Haldi rhizome is soaked in cow milk and with the help of Patal Yantra, oil is extracted. This oil is taken internally upto long time. The Rice farmers of Nagri-Sihawa region are also aware of this use. Many senior farmers informed that they prepare a special Herbal Mala using wood pieces of Bambri (*Acacia nilotica*). This Mala is tied around the waist or many times wear in neck. This Herbal Mala is considered as a boon for the patients having the problem of Piles. It acts as both preventive and curative to Piles. I was aware of uses of different plant parts of Bambri in treatment of Piles both internally as well as externally but the information on Herbal Mala was new for me. The in-depth faith in this use clearly indicated the efficacy of this Herbal Mala. In treatment of Ear related troubles, the Rice farmers prepare a special oil. They collect the Haldi rhizomes and boil it in water. Through boiling the decoction is prepared. In this decoction, leaf juice of Panphuti (*Bryophyllum pinnatum*) and Dhatra (*Dhatura*) leaf juice are mixed. All juices are mixed in equal proportion. This combination is boiled in base oil. As base oil Sarson (Mustard seed) oil is used. When all watery contents evaporate, boiling is stopped and oil is kept for future use. This oil is considered as a boon for the patients having ear infection. According to the Rice farmers, in most of the cases they get rid from these troubles through special oil. In case of complications, they approach to the traditional healers. The traditional healers of this region are aware of this oil but they add more herbs in it to make it more promising. I have observed during the surveys that many farmers sell this herbal oil to the herb vendors without disclosing secret formulation.

Nagri-Sihawa region is well known for aromatic rice varieties. Many senior farmers informed that in early days they were cultivating many medicinal rice varieties also. I am trying my best to gather information on this aspect. I will give the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India.181. Kariyar Taroi Ke Saag.

The scientific name of Kariyar Taroi is *Luffa acutangula* (Syn. *Cucumis acutangulus*). It is an extensively trailing annual, native to Tropical Asia, probably India. It is cultivated through out India for its young, tender fruits which are used as vegetable. In Chhattisgarh, it is well known vegetable. The natives consume it for its unique taste but the traditional healers are aware of its health benefits. The patients having old fevers are advised by them to increase the consumption of this Saag (Curry). It is considered as good body tonic. According to the traditional healers, it develops body resistance and its consumption during growing season, protects the body from troubles round the year. They also consider it beneficial for the digestive system related troubles. As this curry is prepared by using standard method, mentioned in the previous articles of this series, I am not giving the method here.

For the botany, traditional and reported medicinal uses of Kariyar Taroi, Please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 148. Panibel (*Ampelocissus latifolia*, family Vitidaceae).

According to the reference literatures, Panibel is highly resistant to pest and other diseases. Encouraged with this information, four years back, I started Laboratory experiments in order to evaluate the Allelopathic potential of this herb. I have tried the leachate and extract of different parts of Panibel alone and in combination with other parts on over 35 Agricultural, 10 medicinal and 2 aromatic crops. Besides its pest repellent properties, I have observed the negative (Stimulatory) Allelopathic effects of this herb on many crops. Later, I confirmed it in farmers fields. Today, many herb growers are using these leachate and extracts for commercial production of many medicinal and aromatic crops. Its use is also becoming popular among the organic growers. The dense forests of Chhattisgarh are rich in natural population of this climber. Its fruits are edible. It is a good breakfast for the herb collectors during herb collection. Although this herb grows as common herb but it is a matter of surprise that the traditional healers of the state are not much aware of its medicinal uses and properties. In reference literature, the use of its roots in treatment of dental troubles, ulcers and dysentery is mentioned. The traditional healers of Chhattisgarh specialized in treatment of different types of cancer use whole herb in treatment but before use they dip it in water overnight and later dry it in shade. This process is repeated many time. The purpose of this long process is to flush out its toxic contents. This long process has restricted its use to few healers. Many healers recommend the use of diluted decoction of whole herb as veterinary medicine. The decoction is used to wash the cattle in rainy season.

Officially, the name of Panibel is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. According to the reference literatures, botanically it is an extensive climber with tuberous rootstock; Shoot glaucous, slender; leaves 3-7 angled or lobed, cordate, crenate-dentate; Flowers in cymes, usually during the leafless condition of the plant; Berries black, succulent and sweet.

The uses of Panibel as Allelopathic herb and as medicinal herb in treatment of different types of cancer, have made this herb as potential herb that can be used for the benefits of the world community. I personally feel that there is a strong need to conduct a systematic research on different aspects of this important herb.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Keshkal region.

The Keshkal region is rich in natural bio-diversity. This is the reason that the Rice farmers of this region gave me valuable information regarding common herbs present in surrounding during the interaction. I am giving the details in present article.

The Rice farmers of Keshkal region informed me about many medicinal uses of Til (Sesame). Til is undercultivation as oil seed crop in Chhattisgarh. In treatment of Dysuria, they use its seeds. The seeds are burnt and ash is collected. In combination with cow milk and Shahad (Honey) this ash is taken internally as treatment. The treatment is continued till complete cure. It is considered as one of the promising treatments. The Rice farmers also use Panphuti (*Bryophyllum pinnatum*) leaf juice for the same purpose. The juice is extracted by crushing the leaves and Rice water is added. Leaf Juice and Rice water are added in 1:3 ratio. This combination is taken internally many times a day. Many farmers add sugar in this combination to give it sweet taste. The traditional healers of Keshkal region are aware of these uses. They confirmed its promising effects. The natural forests of Keshkal region are rich in wild population of Baibirang (*Embelia ribes*). In treatment of Adhasisi (Migraine), they use Baibirang in combination with Til seeds. Baibirang and Til seeds are mixed in 1:2 ratio and with the help of stone, the combination is crushed and an aqueous paste is prepared. This paste is applied externally on affected parts as treatment. The traditional healers suggested the addition of cow ghee and Gud (Jaggery) in this combination to make it more promising. I have informed the Rice farmers about the healer's suggestions. This use is very popular among the Rice farmers. Many of them claimed that at initial stages its regular use cures the trouble effectively. In treatment of spleen related troubles, the Rice farmers prepare a special combination by adding Ajwain (*Carum copticum*), Noon (Namak) and Dhikuar Guda (Aloe vera pulp). Kali Mirch (*Piper nigrum*) is also added some times. The combination is kept under open sky upto 15 days. After this period, the combination is taken internally upto one month. The farmers prepare it in winter

season. According to them, this combination cures all the troubles related to spleen. Its popularity among them clearly indicates its efficacy. You will be surprised to know that the traditional healers of this region were not aware of this combination. When I informed them, they promised me to try and inform about the results. In treatment of trouble of cold sweat, the Rice farmers use the roots of Untkatara (*Echinops echinatus*). The root is collected and dried in shade. After drying it is converted into powder. This powder is taken internally in combination with Shahad (Honey). The use is continued till complete cure. Untkatara grows as wasteland weed in this part of Chhattisgarh. The Rice farmers have kept this herb in the category of medicinal weeds. Many farmers informed that they sell its different plant parts specially its roots to the herb collectors and earn from this waste plant. They also use the root bark of this herb in combination with Urd (*Vigna mungo* pulse) as body tonic. The ingredients are dried in shade and converted into powder. A teaspoonful of powder is taken internally once in a day with lukewarm milk. The senior farmers never miss to take this combination specially in winter season to avoid the common problems due to old age.

After Dhamtari this region is known for herb collection from wild. This is the reason the farmers of this region get good price by selling medicinal weeds as compared to the farmers of other regions. Besides providing additional income, the medicinal weeds are saving the medical expenses of these farmers. This is good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 155. Nimda (*Buddleja asiatica*, family Loganiaceae).

According to the reference literatures, Nimda is a large shrub cultivated as an ornamental for its white, fragrant blooms. Its English name is Butterfly bush. In Chhattisgarh, it is planted in public gardens. From the gardens, it escaped in wild also. During the ethnobotanical surveys when I saw many healers and herb vendors collecting its bark, out of curiosity, I asked them about the purpose of collection. Through the interactions with them I have collected few but important information of its traditional medicinal uses. These uses have yet not been reported in reference literatures. This information motivated me to document the traditional uses without any delay. The traditional healers of Chhattisgarh Plains use the bark of Nimda in treatment of Safed Daag (Leucoderma) in combination with other herbs. I have mentioned in previous articles that the traditional healers specialised in treatment of Leucoderma use many secret formulations. Nimda is one of the major ingredients of these secret formulations. The traditional healers use the bark both internally as well as externally in treatment of other skin troubles also but as other promising alternatives are available, it is used less commonly. The traditional healers of Southern Chhattisgarh use the decoction of bark in treatment of Bavasir (Piles). The patients are advised to wash the anus with this decoction. The traditional healers of Gandai-Salewara region use the fragrant flowers of Nimda and its extract, in treatment of Mirgi (Epilepsy). They also add it in popular combinations used in treatment of heart troubles. Botanically, it is shrub with branches densely tomentose when young; Leaves lanceolate, entire or serrulate, dark green and glabrous above, densely clothed beneath with fluffy white or yellowish tomentum; Flowers very fragrant, white, in slender drooping spikes.

Officially, the name of Nimda is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors confirmed this observation.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Farm Women of Bilaspur region.**

Through the interactions with the Farm Women of Bilaspur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The senior Farm Women use the combination of Fitkari (Alum) and Doodh (Latex) of Fudhar (*Calotropis gigantea*) in treatment of Malarial fever. Many pieces of Fitkari are dipped in fresh latex of Fudhar and latex is allowed to dry. After drying more latex is added. This process is repeated upto many days. After this process, the combination is kept on glass pot and covered with Chhena (Kanda : i.e. spherical Fuel material prepared from dry cow dung) and fire is set. After complete burning of Chhena, the combination is collected and stored for future use. In treatment of Malaria fever this combination is used with Gud (Jaggery). The senior Farm Women informed that once prepared in bulk they use it round the year and many times upto many years. It is an efficacy of this combination that the Farm Women prepare it with patience. I have observed during the survey that many Farm Women sell this unique combination to the herb vendors without disclosing its secret formulation. Very few traditional healers of Bilaspur region are aware of this combination. They confirmed its promising effect in treatment of Malarial fever. Fudhar (*Calotropis gigantea*) grows as wasteland weed in this part of Chhattisgarh. For the Farm Women and natives, it is a valuable herb of religious and medicinal importance. Many Farm Women informed that they use the combination of Hing (*Asafoetida*) and Limau Rasa (Lemon fruit juice) as home remedy in treatment of toothache. This combination is applied on painful teeth. According to them, it is one of the simple but promising treatments. In treatment of Motiabind (Cataract), they use the aqueous extract of Alu (Potato) tubers. The aqueous extract is applied into the eyes as treatment. It is matter of surprise that Alu is not a native to Chhattisgarh but the Farm Women are aware of its unique use. They informed that they are using it since generations. The traditional healers of Bilaspur region aware of this use informed that at initial stages, this extract gives promising results. Alu is under cultivation as tuber crop in this region. The Farm Women showed me a dry herb named Najarbooti. They purchase it from the herb vendors coming from neighboring states. From dry herb it is very hard to recognize the dry herb but I am trying to find its scientific name. The Farm Women use this herb in treatment of many common as well as complicated troubles. Many of them informed that it is a boon for the patients having Garma (Syphilis). For treatment, the whole herb is dipped in water overnight and next morning softened herb is converted into paste and in combination with Sugar taken internally as treatment. The use is continued till complete cure. They also consider it as promising blood purifier. The herb vendors confirmed that besides Farm Women many traditional healers are also aware of its use in treatment of Syphilis. It was new information for me. In treatment of Asthma, as home remedy the Farm Women use the combination of Laung (Clove) and Dahi (Curd) internally. According to them this combination acts as both curative and preventive to Asthma. As birth control measure, like the natives and traditional healers of other parts of Chhattisgarh, the Farm Women use Pudina (*Mentha sp.*)

herb. The whole herb is collected and dried in shade. After drying it is converted into powder. On the day of intercourse, a teaspoonful of powder is taken internally with water. This use is very popular among them. This is not only simple, but very promising preventive measure. Pudina is grown in home gardens in Chhattisgarh.

The above mentioned information is very valuable and need attention from scientific community. This is a matter of appreciation that the Farm Women of Bilaspur region are not only aware of the traditional uses of common herbs but also they are using it in their routine life.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 183. Bade Bhatkatiya Ke Saag.

Like Bhatkatiya (*Solanum xanthocarpum*), Bade Bhatkatiya (*Solanum torvum*) is also used by the natives of Chhattisgarh as curry (Saag). Bade Bhatkatiya grows as wasteland weed in Chhattisgarh. Medicinally it is used as promising alternative to Bhatkatiya. The natives use its leaves and fruits separately to prepare the Saag. The use of fruit is more popular. The Saag prepared from leaves is consumed for medicinal purposes. It is more popular among the senior natives. The common natives consume these preparations for its specific taste. The traditional healers of Chhattisgarh are aware of its health benefits. These preparations are considered as a boon for the patients having respiratory troubles specially Asthma. It is also considered useful in treatment of troubles related to digestive system. Many healers recommend it in case of urinary system related troubles. As the curry of Bade Bhatkatiya is prepared by using same method that is adopted in preparation of Bhatkatiya, I am not repeating this method in present article.

For the botany, traditional and reported medicinal uses of Bade Bhatkatiya, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 154. Kadu Jadi (*Enicostema hyssopifolium*, family *Gentianaceae*).

The traditional healers of Chhattisgarh specialized in treatment of different types of fever, use Kadu Jadi as promising substitute to Kalmegh (*Andrographis paniculata*). Many times they mix both herbs in different proportions and use for the same purpose. Kadu Jadi occurs as common herb in almost all parts of Chhattisgarh. The traditional healers, senior natives and herb collectors are aware of its natural presence. Like Kalmegh, they also use it as blood purifier but as other promising alternatives are available; this herb is used less commonly. Its over doses cause loose motion. This is the reason many healers consider it laxative and use it for the same purpose. In many parts of Chhattisgarh, the natives burn this herb in order to repel away the flies and mosquitoes. During its use they avoid its use in presence of the small children. It is considered harmful to them. Shri Vishal Bharat, a well known traditional healer of Bastar region, was using the decoction of whole herb to dress the cancerous wound. This is a matter of surprise that although this herb is present in abundance in wild but the traditional healers are not much aware of its uses. In reference literatures related to different systems of medicine in India, many valuable medicinal properties and uses of Kadu Jadi have been mentioned. According to Ayurveda, the plant is pungent and very bitter, anthelmintic and cures fever and acts as tonic.

According to the reference literatures, botanically Kadu Jadi (*E. hyssopifolium* syn. *E. verticillatum*; *Gentiana verticillata*) is a perennial glabrous herb, 10-50 cm high, branched from the base; Stems erect or procumbent, sub-quadrangular or terete; Leaves sessile, opposite, variable, 3-nerved, mid-nerve strong; Flowers sessile, in axillary clusters all along the stem;

Corolla infundibuliform, lobes 5, white; Fruit capsule, ellipsoid, narrowed at the base, rounded apex. Flowering time July to November in Chhattisgarh conditions.

Officially its name is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but the herb collectors and traders informed that it is in trade from the state. It is mainly used as adulterant to other herbs. According to them, this adulteration causes no harms of the users. At present, its collection from wild is not posing any threat on natural population of this herb.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Kanker region.

Through the interactions with the Farm Women of Kanker region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In treatment of fever due to respiratory troubles, the Farm Women of Kanker region use the leaves of Untkatara. The leaves are boiled in water and Kali Mirch (*Piper nigrum*) is added. The decoction is taken internally as treatment. The decoction is taken many times a day and use is continued till complete cure. Every time fresh decoction is used. The traditional healers of this region are also aware of this use. They suggested that in place of leaves whole herb of Untkatara can be used in form of decoction in order to get more promising effects. I have

informed about the traditional healer's comment to the Farm Women. They assured me to use the whole herb next time. In treatment of Kidney related troubles they use the Untkatara roots in combination with Kukurmutta (*Blumea lacera*) roots and leaves of Duddhi (*Euphorbia hirta*). All herb parts are dried in shade and mixed in equal proportion. The combination is boiled in water and when half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is used internally. According to the Farm Women, this decoction is very useful in reducing the Kidney pain. All ingredients of this combination occur as wasteland weeds in this part of Chhattisgarh. The scientific name of Untkatara is *Echinops echinatus*. In treatment of open wounds, the Farm Women of Kanker region use a special herbal oil. To prepare the oil, Harra (*Terminalia chebula*) fruit powder, Panphuti (*Bryophyllum pinnatum*) leaves and Raksi (*Abutilon indicum*) leaves are mixed in equal proportion and paste is prepared. This paste is boiled in base oil and oil is kept for future use. As base oil, Sarson (Mustard seed) oil is used. This oil is applied externally on wounds. During the survey, I have noted that many Farm Women sell this oil to the herb vendors without disclosing its formulation. All ingredients used in this oil, are available easily in surrounding areas. Harra is well known tree and natural forests are rich in its natural population. Panphuti is also a common forest herb whereas Raksi occurs as weed in Rice fields and wastelands. The Farm Women informed that when they see the use of weedicides in crop fields, they wonder and show surprise, why the so called modern farmers are destroying valuable medicinal herbs. Many senior Farm Women of this region are aware of use herbal combination that cures the harmful effects caused by the overuse of Para (Mercury). In traditional systems of medicine in India, Para is used as medicine but its use requires in depth knowledge and care. Its overdoses or wrong uses cause many problems and many times it takes the patients life also. the senior Farm Women are aware of its misuses and consequences. They claimed that their traditional knowledge can nullify these harmful effects. They take the leaf juice of Makoi (*Solanum nigrum*), Van Tulsa (*Ocimum gratissimum*, also known as Ram Tulsi) leaf juice and water. Makoi and Van Tulsa juice are taken in equal proportion whereas water is taken ten times. For example, Makoi and Van Tulsa juice are mixed in 1:1 proportion, after adding the water it will become 1:1:10 ratio. One glassful of this combination is given to the patients daily morning empty stomach. This solution is given upto a week. Daily the urine is collected and observed for the residues. You will be surprised to know that the traditional healers of Kanker region were not aware of this promising use. They tried it and informed me that this solution gives extra ordinary results. Both Makoi and Van Tulsa occurs as wasteland and field weeds in this region. I personally feel that this solution is of great importance for our researchers working in the field of industrial pollution and human health. Mercury toxicity is becoming a common problem in industrial belts. I am confident that this solution can play a vital role in treatment of natives living in these belts.

The in depth traditional medicinal knowledge about common weed, the Farm Women of Kanker region are having is the matter of surprise and appreciation. Most of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am proud to document this important traditional medicinal knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 153. Tagarmul (*Nymphoides indicum*, family Gentinaceae).

According to the reference literatures Tagarmul is a common aquatic herb with long floating stem rooting at the nodes found in fresh water lakes almost throughout India. It is used as a substitute for Chiretta (*Swertia chirayita*), in fever and Jaundice. In Chhattisgarh, this herb is common. The traditional healers and herb collectors are aware of its natural presence in Chhattisgarh. As traditional medicine, the healers are aware of its use in treatment of liver related troubles, but as other promising alternatives are available they use Tagarmul very rarely. They were not aware of its use in treatment of Fever. When I informed them about its reported use as remedy to fever and as substitute to Chiretta, the traditional healers of Chhattisgarh specialised in use of fever showed interest. In Chhattisgarh, in the name of Chiretta they use Kalmegh (*Andrographis paniculata*) in treatment of fevers. On request, I present the herb to the healers of Nagri-Sihawa region. They tried it and informed that it is inferior in action as compared to the Kalmegh but as Kalmegh is not suitable to every patient they can use it as its substitute like *Exacum* sp. They are also searching the possibilities of using this herb as blood purifier. The traditional healers of Northern Chhattisgarh use the aqueous paste of this herb externally for many purposes. It is considered useful in reducing the intense pain due to Adhasisi (Migraine). They also apply the paste on swellings. According to the healers, this herb is having the capacity to remove extra heat from body part from where it is applied. These uses are not enough to establish this aquatic herb as potential medicinal herb.

Officially, the name of Tagarmuli is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Farm Women of Bagbahera region.

Through the interactions with the Farm Women of Bagbahera region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In treatment of snake bite, as first aid measure the Farm Women of Bagbahera region use the soft leaves of Andi (*Ricinus communis*). The leaf juice is taken internally in combination with Kali Mirch (*Piper nigrum*). They informed that this combination produces vomiting and through vomiting, all poison comes out. Till the reaching of the traditional healers, the combination is given many times internally. It is considered as one of the promising first aid measures. The traditional healers are also aware of this measure. They confirmed its efficacy. Andi grows as wasteland herb in this part of Chhattisgarh. Many women informed that in many cases the patients get rid from poison even before the reaching of the traditional healers. During child birth, in order to hasten the process the Farm Women of Bagbahera region use Sonth (Dried Ginger) in combination with cow milk. Sonth is boiled in milk and given internally. I got opportunities to observe the effectiveness of this combination many times. I have written a lot on this aspect in my previous articles but the use of Sonth was new information for me. In

treatment of common as well as problematic boils, the Farm women use the flowers of Dhanbaher (*Cassia fistula*). The flowers are crushed and with the help of cow urine an aqueous paste is prepared. This paste is applied on boils. This use is very popular among them. Its popularity clearly indicates its efficacy. Dhanbaher is a common tree of medicinal and religious importance in this part of Chhattisgarh. In treatment of stomach related troubles the Farm Women use the leaves of Parsa (*Butea monosperma*). Its leaf juice is taken internally with cool water. They informed that before extracting the juice, the mid rib is removed from the leaves. They are unable to give the scientific reason but as traditional practice they are removing it carefully. I personally feel that it is our responsibility to search the scientific reason and explanation. According to the Farm Women, this simple treatment cures the trouble effectively in very less time. When we started discussion on aphrodisiac, the Farm Women informed about the herbal combination that can be used as male aphrodisiac. In this combination, Rudravanti leaves are added as main ingredient. Rudravanti leaves, Kali Mirch and Elaichi (*Cardamom*) are mixed in equal proportion and this combination is boiled in cow milk. The solution is taken internally. The senior Farm Women informed that the use of this herbal combination upto specific time helps the male partners to maintain the sound sexual health round the year.

The Farm Women are aware of demand of common herbs grow as weeds in crop fields. They collect different herbs in different season and sell it to the local shop owners and herb collectors. In exchange they get equal weight of domestic commodities, mainly Noon (Salt). In general, it is difficult to interact with the Farm Women without support of any local person, but I got full co-operation from them. This is a good sign that they are still using the traditional knowledge about common herbs in their day to day life.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 147. Bade Bhatkatiya (*Solanum torvum*, family Solanaceae).

Although both Bhatkatiya i.e. common Bhatkatiya (*Solanum xanthocarpum*) and Bade (big) Bhatkatiya (*Solanum torvum*) occurs naturally in Chhattisgarh but the natives and traditional healers of the state use *S. xanthocarpum* more commonly. *S. torvum* is considered as promising alternative to first one but there is a difference in opinion among the traditional healers. Most of the healers consider it inferior to *S. xanthocarpum* from medicinal point of view. The senior healers informed that *S. xanthocarpum* is more widespread and common. This is the reason their forefathers have discovered more properties and uses of this herb. According to the reference literatures, Bade Bhatkatiya is a spiny herb or shrub distributed in the tropical regions of the country. Its fruits are used as digestive tonic. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few additional uses of this herb because in most of the cases, the natives and traditional healers use this herb in absence of *S. xanthocarpum*. The traditional healers of Chhattisgarh Plains, crush the whole herb of Bade Bhatkatiya and collect the juice. The patients having the problem of Pathri (Renal Calculi) are advised by them to take this juice daily in combination with fresh Dahi (Curd). The use is continued till the flushing of stones but in many cases they suggest its prolonged use in order to prevent the formation of Pathri again. The traditional healers of Nagri-Sihawa region suggest the patients having small boils to mix the juice of whole herb in Shahad and apply the combination on boils. It is considered as one of the promising treatments.

Officially the name of Bade Bhatkatiya is not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets but you will be surprised to know that the herb collectors are collecting it in bulk from wild and traders are engaged in supply of this herb. Many of them informed that this herb is used as adulterant in many herbs. I am trying my best to search the details.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Rice Farmers of Kondagaon region.**

Through the interactions with the Rice farmers of Kondagaon region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Bhatkatiya (*Solanum xanthocarpum*) is a common weed in this part of Chhattisgarh. The Rice farmers of Kondagaon region are well aware of its medicinal properties and uses. The senior farmers informed that its root bark can be used successfully in treatment of Hydrocele. The freshly collected root bark is used for this purpose. By crushing it, an extract is prepared and in combination with sugar taken internally as treatment. The use is continued till complete cure. According to the senior farmers, within few days this use cures the trouble effectively. In case of non-availability of fresh root bark, they take dry root bark but it is less preferred. The traditional healers of Kondagaon region are also aware of this use. They suggested the use of white flowered species of Bhatkatiya (rare) for more promising effects. I have mentioned in previous articles that the natives and traditional healers of many regions use Bhatkatiya externally in form of decoction in treatment of same trouble. The Rice farmers of this region are not aware of this external use. The farmers further informed that many herb collectors ask for white flowered species and give good prices for it. This is the reason, its availability has decreased drastically in this region. The Rice farmers are aware of many use of Til (*Sesamum indicum*) also. They use it frequently in treatment of poison. Til is under cultivation as oil seed crop in this region. In treatment of dog bite, they use Til based herbal combination. In this combination, Til seed oil, Til seed powder, Gud (Jaggery) and Doodh (Latex) of Fudhar (*Calotropis gigantea*) are mixed. This combination is taken internally twice a day. According to them this regular use nullifies the effect of poison. The traditional healers of Kondagaon region confirmed this miraculous effect. Fudhar grows as wasteland weed in this region. To nullify the poisonous effects of Dhatra (*Datura* sp.) seeds, the farmers use Til oil in combination with hot water. Both are mixed in equal proportion and taken internally in every two hours. In Chhattisgarh, Dhatra seeds are used for criminal poisoning. Through the combination of Til oil and hot water, the Rice farmers manage the trouble effectively. They also use it as veterinary medicine. I have mentioned in previous articles, that in many parts of Chhattisgarh the natives and traditional healers boil Ajwain (*Carum copticum*) and Gorakh mundi (*Sphaeranthus indicus*) in base oil and prepare a special herbal oil. This oil is used in treatment of Gout externally. The Rice farmers of Kondagaon region use the whole herb of Gorakhmundi in other way. The whole herb juice is boiled in base

oil and when all watery contents evaporate boiling is stopped and oil is kept for future use. As base oil Til oil is used. This oil is taken internally as tonic, to develop natural resistance inside the body. They take this oil every morning empty stomach. This oil is specially recommended to the natives having poor sexual health. You will be surprised to know that the traditional healers of this region were not aware of this unique use. When I informed them, they tried and found it very effective. Gorakhmundi grows as winter season weed in crop fields. Many farmers confirmed that they sell the dry herb and flowering heads of Gorakhmundi to the herb collectors and in this way they are earning from this medicinal weed.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. The in depth traditional knowledge the Rice farmers are having is a matter of appreciation.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Pendra region.**

Through the interactions with the Rice farmers of Pendra region I have collected many valuable information on traditional medicinal use of common herbs. I am giving the details in present article.

The Rice farmers of this region are aware of many medicinal uses and properties of Patha (*Cissampelos pareira*). I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use, Hadjod (*Cissus quadrangularis*) and Koha (*Terminalia arjuna*) popularly in treatment of fractured bone. Both herbs are used internally as well as externally. The Rice farmers of Pendra region informed about new herb. They use the leaves of Patha in such troubles. The leaves of Patha are collected and by crushing the leaf juice is extracted. This leaf juice is taken internally many times a day. The use is continued till complete reunion of bones. Many farmers add Haldi (*Curcuma longa*) powder in this juice to make it more useful. For external application they boil the leaves of Patha and Haldi in cow milk and very thick solution is prepared. This solution is applied in form of paste in affected parts. According to them, both internal as well as external use cures the trouble effectively in very less time. The traditional healers of Pendra region are also aware of this use. They prefer Patha to Hadjod and Koha. Many healers prepare a special oil by boiling Patha leaves in base oil. When all watery contents evaporate the boiling is stopped and oil is kept for future use. This oil is considered as a boon for the patients having the problem of joint pains. As base oil, Sarson (Mustard seed) oil is used. When I informed the Rice farmers about the special oil prepared from Patha leaves, they thanked and assured to use it in future. Many farmers are aware that as medicinal herb, there is a demand of Patha in market. According to the reference literatures, Patha roots are used in diarrhoea, dysentery, colic, cough and urinary troubles. The alkaloid hayatine isolated from roots and vines, is reported to be good substitute for curare, d-tubocurarine and other curariform drugs. I have written a lot about traditional medicinal uses of this herb in Chhattisgarh, in previous articles. Many senior Rice farmers informed that in early days they were using the leaf juice of Chhui Mui (*Mimosa pudica*) in treatment of Plague. As Plague is not a problem these days, this use has no relevance at present time but from documentation point of view it is an important information. Chhui Mui grows as wasteland herb in this part of Chhattisgarh. Many Rice farmers informed that the Doodh (latex) of Doomar (*Ficus glomerata*) can nullify the harmful effects of Arsenic poisoning. The latex is used internally. They also claim that regular intake of Doomar latex in smaller doses regularly can save the body for future Arsenic poisoning. This information is very valuable for the researches working in the field of Arsenic poisoning. I have mentioned in previous articles that in many region of Chhattisgarh the groundwater is contaminated by Arsenic. The traditional knowledge of Rice farmers can save the lives of natives living in these regions. Doomar is well known herb in almost all parts of the Chhattisgarh. Like the natives and traditional healers of other parts of Chhattisgarh, the Rice farmers of Pendra region are also aware of use of Punarnava roots (*Boerhaavia diffusa*) in treatment of Pthisis. They use the powdered roots in combination with Shahad (Honey).

I was not expecting such valuable information from the Rice farmers of Pendra region. It is a matter of appreciation that these farmers are not only aware of traditional medicinal uses of common herbs but also they are using it in their routine life.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 150. Mashoni (*Teramnus labialis*, family Papilionaceae).

According to the reference literatures, Mashoni is a climbing or wide-spreading hairy herb distributed all over the India. It is used as cover and pasture crop. In Chhattisgarh the traditional healers and herb collectors are aware of its presence but very few healers are aware of its medicinal properties and uses. The ethnobotanical surveys conducted in different parts of Chhattisgarh revealed this information. The traditional healers specialized in treatment of different troubles related to respiratory system add the pods of this herb in popular herbal combinations. The pods are not used alone. The healers have explanation for this restriction. According to them, the pods possess some toxic contents and when it is used alone, it aggravates the trouble and result in side effects. They further informed me that the atmospheric stress particularly the drought, increases the toxicity. This is the reason that healers collect it themselves from wild. The herb collectors are not aware of the effect of atmospheric stress. When Mashoni is used with other herbs, the presence of other herbs nullify its harmful effects. The traditional healers of Chhattisgarh Plains use, its leaves in treatment of chronic constipation, but the leaves are used in small doses and with special care. The senior natives of Chhattisgarh suggest the women in lactation period to take the leaf leachate in order to increase the flow of milk. The leaves are dipped in a bowl filled with water overnight and next morning leachate is collected. This leachate is taken empty stomach daily morning. As other promising alternatives are available, they use it less frequently but from documentation point of view it is an important information.

According to the reference literatures, Mashoni (*Teramnus labialis* syn. *Glycine labialis*) is a slender climber or trailing twinning herbs with pubescent branches; Leaves trifoliate; leaflets rhomboid, elliptic-oblong to ovate lanceolate; Flowers in lax axillary racemes; Corolla bluish white to reddish; Pods sessile, linear-compressed, brown-hairy, recurved, beaked, 5-12 seeded.

Officially, the name of Mashoni is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. As mentioned earlier that in many parts of India, it is used as cover and pasture crop. Unfortunately, the natives are not aware of this use. I personally feel that after systematic research this herb can be utilized for these purposes in Chhattisgarh also.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Kavardha region.

Through the interactions with the Rice farmers of Kavardha region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of this region are aware of many promising uses of Untkatara (*Echinops echinatus*). They use it internally as well as externally in treatment of many common diseases. They informed that its flowers can be used in treatment of eye related troubles. The flowers are collected and allowed to dry in shade. After drying, flowers are dipped in Rose water (Gulab Jal)

for twenty four hours. After this duration, extract is collected from the flowers. This extract is kept for future use. In case of eye trouble, few drops of extract are applied into the eyes. The extract is considered promising in treatment of poor eye sight. The traditional healers of Kavardha region are also aware of this use but they prefer other herbs. They conformed its promising effects. Untkatara grows as wasteland weed in this part of Chhattisgarh. In treatment of Sujak (Gonorrhoea), the Rice farmers use the herbal combination having Til (Sesame seed) and Ajwain (Carum copticum). Both ingredients are mixed in 2:1 ratio and by adding sugar in it, it is taken internally. They use it as supplement treatment to main treatment. The traditional healers informed that at very early stage this combination gives good results. Many senior Rice farmers use the decoction of Til seeds in treatment of Amenorrhoea. The seeds are boiled in water and when one fourth water (of initial quantity) remains, the boiling is stopped and decoction is collected. This decoction is taken with Gud (Jaggery) many times a day. The use is continued till complete cure. According to the senior farmers within a month the patients get rid from this trouble. Black seeded Til is preferred for the preparation of decoction. You will be surprised to know that the traditional healers of Kavardha region were not aware of this unique decoction. During survey, I observed that the Rice farmers keep the dry roots of specific herb with them and use it in form of Tabiz and Herbal Mala very frequently. Later, I identified it as a root of *Doronicum falconeri*. According to the reference literatures, it is a herb distributed in N-W Himalayas and Kashmir. Its roots are used as an aromatic tonic and are also considered to be useful in nervous depression. The Rice farmers of Kavardha region collect it from the herb vendors. They are not aware much of its use as medicine internally. The natives having nightmares are suggested by them to keep the root piece under the pillow. In treatment of vaginal pain it is kept inside the vagina. The senior Rice farmers informed that in early days they were using the Herbal Mala having these root piece as preventive to Plague, which was epidemic at that time. Although this use is not much relevant now a days but from documentation point of view it is an important information. The Rice farmers are unable to give the scientific explanation regarding its mode of action. I personally feel that through systematic research our researchers can search the scientific explanation for the future generation. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the bark and wood of Beeja (*Pterocarpus marsupium*) in treatment of Diabetes. Form Rice farmers I got information about new uses. In treatment of old injuries, they take the bark powder of Beeja internally with lukewarm water. The use is continued till complete cure. This use is very popular among them and its popularity clearly indicates its efficacy.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am proud to document this knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 178. Hadjod ke Halwa.

Like the Hadjod Ke Bhajia (please see Herbal dishes of Chhattisgarh, India. 175.), many natives and traditional healers of Chhattisgarh prepare and use the Halwa, a sweet dish, prepared from Hadjod (*Cissus quadrangularis*) stem. Hadjod is well known herb in Chhattisgarh and it is popularly used both internally as well as externally by the bone setters. Hadjod ke Halwa is a sweet preparation having many health benefits. According to the traditional healers, this preparation is a boon for the patients having gout and related troubles. The common natives are not aware of this important health benefit.

Material Required: Hadjod stem powder, Ata (Wheat flour), Cow ghee, Sugar.

Method of Preparation: Hadjod stem powder and Ata are roasted well in pan, till its colour changes into reddish brown. Separately sugar is boiled in water to prepare the Chashni (Syrup). The syrup is mixed with roasted combination and Halwa is prepared.

For the botany, traditional and reported medicinal uses of Hadjod please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 139.
Ghandhali (*Paederia scandens*, family Rubiaceae).

According to the reference literatures, Ghandhali (*Paederia scandens* syn. *P. tomentosa*; *P. foetida*) is a shrub that is considered specific for rheumatic affections. Its roots are emetic and leaf juice is given to children in diarrhoea. The reference literatures on flora, traditional healers and herb collectors of Chhattisgarh claim that this herb is present in natural forest and can be identified with its typical smell. The traditional healers of Bhopalpatnam region informed that many wild animals particularly Bendra (Monkeys) use this herb in treatment of skin related troubles. Motivated by these observations when the healers tried this use, they got good results. Now they are using it in treatment of skin troubles alone and in combination with other herbs. Many healers are aware of its use in treatment of rheumatism but as other promising alternatives are available they use it less frequently. They are in favour of using this herb externally in treatment of Rheumatism. The traditional healers of Chhattisgarh Plains use the decoction of its roots in treatment of Bavasir (Piles). The patients are advised to sit in tub filled with decoction. They use it as supplement treatment to main treatment. Unfortunately, the healers are not aware of its other uses.

Officially, the name of Ghandhali is not present in list of medicinal herbs of Chhattisgarh having any demand in national markets. But many herb collectors informed that on specific demand they collect its bark and roots from wild. They are not aware of its end use. The herb traders not accepted that there is any demand of this herb. I am trying my best to find out the fact.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Jagdalpur region.**

Through the interactions with the Rice farmers of Jagdalpur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Jagdalpur region informed about many promising uses of Kohda (Pumpkin). Kohda is well known herb in this part of Chhattisgarh and cultivated for its delicious fruits used as vegetable. The male natives having the problem of sterility are advised by the Rice farmers to increase the consumption of Kohda in any form. According to them, it acts in promising ways and in most of the cases the patients get rid from this trouble. The traditional healers of Jagdalpur region are also aware of this unique use. They confirmed its miraculous effects. They prefer the use of matured fruits to get promising effects. The Rice farmers informed me about many uses of medicinal insect Khatmal (Bed bug, *Cimex* sp.). If anyone swallows leech (Jonk) by mistake, the Rice farmers suggest them to smell the excreta of this medicinal insect. By boiling the insect they prepare a special decoction also. the patients are advised to gargle with this decoction. Many farmers use the excreta externally in form of aqueous paste, in treatment of Adhasisi (Migraine). According to them, this application helps in reducing the pain. These uses of Khatmal have yet not been reported in reference literatures. Although it is not very difficult to collect the insect, but the collection of excreta requires special effort. I have observed during the surveys that many herb vendors sell the excreta as medicine. This is a matter of proud for me that I am documenting this unique knowledge for the first time. The Rice farmers of Jagdalpur region are aware of use of Giloi (*Tinospora cordifolia*) extract in treatment of Diabetes. But for systematic treatment, they prefer the treatment through the

traditional healers. From documentation point of view it is an important information. Giloi is well known medicinal herb among them. In previous articles, I have mentioned that the natives and traditional healers of many regions use all parts of aquatic herb Kamal (*Nymphaea lotus*) in treatment of many common diseases. The Rice farmers of Jagdalpur region are also aware of its many uses. They use its seeds as styptic. In case of injuries, the seeds are applied in form of aqueous paste on affected parts. According to the senior Rice farmers, the internal use of Kamal seeds in combination with other herbs helps in checking the internal bleeding. The roots of this herb are used by them in treatment of mouth related troubles. The roots are boiled in water and decoction is prepared. This decoction is used in form of gargle as treatment. In many cases, they simply keep the freshly collected root piece near to the painful teeth. The Rice farmers suggest the natives having heart troubles to inhale the smell of Kamal flowers many times a day. This inhalation is considered best for treatment of common headache also. During hot summer, to manage the problem of fever due to hot wind, many Rice farmers use the leaves of Palak (*Spinacia oleracea*). The leaves are boiled in water and decoction is prepared. This decoction is taken internally many times a day in small doses as treatment. Palak is under cultivation as leafy vegetable crop in this parts of Chhattisgarh. Petha (*Benincasa hispida*) is also well known herb in this region. The Rice farmers informed that they prepare a special herbal oil by boiling the Petha seeds in base oil. As base oil Til (*Sesamum indicum* seeds) oil is used. The special oil is considered as a boon for the natives having the problem of Insomnia. The oil is massaged on hairs and fore head. In simple words of these farmers, the application of oil, keeps the mind cool.

During the interactions the farmers co-operated well and shared valuable information. Although for them it is not important knowledge but as ethnobotanist I am aware about importance of their knowledge. I am satisfied that now in form of articles, this knowledge is safe for future generation.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 138. Tini (*Hydrorhiza aristata*, family Gramineae).

According to the reference literatures, Tini (*H. aristata* syn. *Pharus aristatus*; *Leersia aristata*; *Zizania aristata*) forms free floating masses in lakes and slow-moving streams. It is under cultivation in Assam state in the rivers for fodder in cold weather. Its grain is eaten in times of scarcity. According to Ayurveda, the seeds of Tini are sweet and acrid, oleaginous, digestive and cooling. It is astringent to the urinary tract and useful in biliousness. It causes constipation and flatulence. In Chhattisgarh, Tini is a well known herb. The traditional healers and natives are aware of its presence but they are not much aware of its medicinal uses and properties. The traditional healers of Southern Chhattisgarh use the whole herb of Tini in combination with Kai (Lichen) as aphrodisiac. It is also used in same combination in treatment of Garmi (Syphilis). The patients having cool nature are not advised by them to take this herb as medicine. The traditional healers of Chhattisgarh Plains use the roots of Tini in combination of Kukronda (*Blumea lacera*) roots in treatment of Bavasir (Piles). Both roots are collected and dried in shade. After drying, the roots are converted into powder. With the help of water, an aqueous paste is prepared and applied on affected parts. This combination is considered very useful in treatment of bleeding piles. Alone *Blumea* roots can also be used in same manner but according to the traditional healers, the addition of Tini roots increases the effectiveness. Many healers are aware of its use in treatment of troubles related to urinary tract but as other promising alternatives are available this herb is used less frequently.

Officially, the name of Tini is not present in the list of medicinal herbs of Chhattisgarh having any demand in national market. It is not under cultivation in any part of the state. It is the effectiveness of this herb, that its traditional medicinal uses are still popular among the healers.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Rice farmers of Sirpur region.**

Through the interactions with the Rice farmers of Sirpur region, I have collected many valuable information on traditional medicinal uses of common herbs as well as common animals like Earthworm and snail. I am giving the details in present article.

The Rice farmers of Sirpur region use Ghongha (Snail) as medicine in treatment of many common diseases both internally as well as externally. They prepare a special oil by boiling the snail in base oil. When all watery contents evaporate, the boiling is stopped and oil is kept for future use. As base oil Sarson (Mustard seed) oil is used. This oil is considered as a boon for the patients having ear related troubles. Few drops of oil are applied into the ears as treatment. According to them, this oil cures the earache effectively. Many Rice farmers use this oil in treatment of common headache externally. The traditional healers of Sirpur region are also aware of this oil. They prepare it by adding many herbs. The addition of herbs makes the oil more promising. Many senior Rice farmers informed that the internal use of snail is beneficial in treatment of liver related troubles. For this purpose, snail is used in form of dry powder. These uses are new information for me. I have written a lot about medicinal uses of other animals except snail. I am thankful to the mother nature for giving me opportunity to document this important traditional knowledge. Kathal (*Artocarpus heterophyllus*) is well known fruit tree in this region. The natural forests are rich in this tree. The Rice farmers of Sirpur use the seeds of Kathal as aphrodisiac. The seeds are dried in shade and after drying roasted well. The roasted seeds are crushed into powder. This powder is taken internally with lukewarm milk. The farmers recommend this use to newly wed couples. According to them, the seeds are equally effective for male and female partners. They also add the seed powder in popular combinations as main ingredient. These popular combinations are used as sex tonic. The immature fruits are used to prepare different dishes. The Rice farmers informed me about many promising uses of Kali Haldi (*Curcuma caesia*). They prepare a special combination by mixing powdered rhizome of Kali Haldi with cow ghee and rock salt. This combination is used in treatment of bone pain. The combination is applied externally on painful parts. During fever to treat body ache, this combination is used in same manner. The farmers further informed that this use not only reduces the temperature but also cures the body ache effectively in very less time. The traditional healers of this region were not aware of this promising use. When I informed them, they tried it and found it really promising. They appreciated the in depth knowledge, the Rice farmers are having. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the flowers of Kachnar (*Bauhinia variegata*) in treatment of

Haemoptysis. The flowers are roasted with the help of cow ghee and taken internally. The Rice farmers of Sirpur region are aware of this use. Patta Gobhi (Cabbage) is under cultivation as vegetable crop in Chhattisgarh. The senior Rice farmers informed that the internal use of this vegetable is good blood purifier and can be useful for the patients having blood related troubles. Earthworm (Gangerwa) is considered as farmer's friend. The Rice farmers of Sirpur region have discovered many health benefits of this creature, while living with is since time immemorial. They burn the freshly collected Earthworm in Til (Sesame seed) oil and use it internally in treatment of troubles related to respiratory system. It is considered very useful in treatment of Asthma. They use it both curative and preventive in Asthma.

The information on traditional medicinal uses for Snail and Earthworm are unique and need special attention from scientific community. Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. The popularity of these uses among them clearly indicates its efficacy.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Tilda region.

Through the interactions with the Rice farmers of Tilda region, I have collected many valuable information on traditional medicinal uses of common herb. I am giving the details in present article.

In treatment of Felon, the Rice farmers use the leaves of Bariyara. Felon is considered as complicated trouble. The leaves are crushed and with the help of water an aqueous paste is prepared. This paste is applied on finger as treatment. The application is repeated many times a day. Within few days, this application cures the trouble effectively. Bariyara grows as common wasteland weed in this part of Chhattisgarh. Its scientific name is *Sida acuta*. The farmers informed that they collect the seeds of Bariyara and sell it to the local shop owners and herb collectors. As this herb is used to make the broom, many farmers sell the whole herb. They also use to make brooms for themselves. I have mentioned in previous articles that the natives and traditional healers have in depth traditional medicinal knowledge about this medicinal weed. The use of Bariyara in treatment of Felon was new information for me. Many senior farmers informed that the leaves from branches having flower give more promising result as compared to the leaves collected from non-flowering branches. You will be surprised to know that the traditional healers of this region were not aware of this selection procedure. Later, they tried and found it true. They appreciated the in depth traditional medicinal knowledge, the Rice farmers are having. This region particularly the forest of Bilari is rich in natural population of Parsa (*Butea monosperma*) trees. The Rice farmers use its seeds as body tonic. The seeds, Til (Sesame seeds) and sugar are mixed in equal proportion and the combination is crushed into powder. This powder is taken internally twice a day. They recommend the use of this powder to the patients recovering from exhaustive diseases. The traditional healers of this region are aware of this use. They confirmed its promising effects. They added that its use upto specific period in any part of the year helps in maintaining the good health round the year. I personally feel that there is a need to popularize this promising combination among the youths of present generation having poor body resistance. As you know, that Bambri (*Acacia nilotica*) is an integral part of Rice ecosystem in Chhattisgarh. The Rice farmers welcome this tree, growing in field bunds and use its all parts for different purpose. I have written a lot on various aspects of this medicinal tree in many previous articles. During interaction with the senior Rice farmers of Tilda region I got an additional information. The farmers told that in many trees swelled structure occurs on stem of trees. Although it is very rare but through sincere observation one can found this swelling without any problem. This swelled portion is detached from stem and collected. After collection it is dried in shade and converted into powder. The patients having the problem of Mirgi (Epilepsy) are advised to burn the powder and inhale the fumes coming. They use it both as curative and preventive to Mirgi (Epilepsy). It is considered as one of the promising treatments. I got opportunity to interact with the patients taking this treatment. They were satisfied with the treatment. In general, the senior Rice farmers do not disclose the secret about swelled structure. But seeing my interest in documentation of traditional knowledge, they disclosed the secret. I am feeling proud to document this important traditional knowledge.

This is a matter of surprise to see and experience the in depth traditional knowledge about common herbs, the Rice farmers of this region are having. During interaction they showed worry in decreasing population of medicinal herbs in surrounding regions and introduction of new invasive species as weed.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India 180. Giloi Patta Ke Sag.

Giloi (*Tinospora cordifolia*) is a well known herb of medicinal importance in Chhattisgarh. In many parts of Chhattisgarh the natives prepare its Sag (Curry) by using its leaves. They consume it for taste but the traditional healers of the state are aware of its many medicinal properties and uses. This preparation is considered as promising body tonic. In general, the healers suggest the natives to consume this preparation upto fifteen days regularly in order to maintain good health round the year. It develops natural resistance inside the body. The patients having the problem of constipation are suggested by the healers to avoid its consumption. Many healers consider it promising in treatment of respiratory troubles.

Material Required: Giloi leaves, Lason (Garlic), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Giloi leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Giloi, I suggest you to read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 145. Ramsar (*Vallisneria spiralis*, family *Vallisneriaceae*).

According to the reference literatures, Ramsar is a shrub, native to India and cultivated as an ornamental for its white fragrant flowers. Its bark is bitter and astringent and is chewed for fixing loose teeth. It is an ingredient of Vishgarbha taila (Oil). Its flowers and fruits are edible. In Chhattisgarh, it occurs both as ornamental shrub in home gardens (but only in big cities) and as wild plant in natural forests. Ramsar is its Hindi name given in reference literature. The traditional healers and natives of different parts of Chhattisgarh know it by different names but Dadha Jadi is most popular name. They are well aware of its beneficial effects in case of mouth related troubles. In many parts of the state, the natives use its young twigs as Dataun (Herbal Tooth Brush). It is not used regularly like Neem or Bambri Dataun. The healers recommend it to the patients having gum related trouble. The use is continued till cure only. During use, the patients are not allowed to swallow the juice of young twigs. The traditional healers of Southern Chhattisgarh use the decoction of its bark internally in treatment of internal bleeding. Although its beautiful flowers are known and used for ornamental purpose but the traditional healers of Gandai-Salewara recommend its internal use in treatment of Gynaecological troubles. It is considered as a boon for the patients having the problem of Dysmenorrhoea. These traditional medicinal uses have yet not been reported in reference literatures.

Officially the name of Ramsar (*Vallisneria spiralis* syn. *Peltanthera spiralis*) is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information. The herb vendors collect it for the traditional healers.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Bhopalpatnam region.**

Through the interactions with the Rice farmers of Bhopalpatnam region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of this region informed about many medicinal uses of Arusa (*Adhatoda vasica*). They use it internally as well as externally in treatment of many common diseases. In treatment of common eye troubles they use the leaves of Arusa. The leaves are crushed and thick paste is prepared. This paste is applied on eye lids as treatment. According to the Rice farmers, this thick paste removes extra heat from eyes and make the eyes trouble free. The traditional healers of Bhopalpatnam region are aware of this use. They confirmed its promising effects. I have mentioned in previous articles that the natives and traditional healers of Chhattisgarh region use Arusa plant parts in treatment of troubles related to respiratory system. The Rice farmers of Bhopalpatnam region are also aware of this use. They prepare a special Shurbut by using Arusa leaf juice and whole herb juice of Gorakhmundi (*Sphaeranthus indicus*). Gorakhmundi grows as winter season weed in this part of Chhattisgarh. Both juices are mixed in equal proportion and by adding sugar syrup Shurbut is prepared. Once prepared in bulk, this

Shurbut is stored for future use. In case of trouble, they use this Shurbut. Two teaspoonful of Shurbut is mixed in a glassful of water and taken internally. The farmers informed that this Shurbut saves their medicinal expenses to great extent. As both herbs grow as common herbs in surroundings, the farmers prepare this Shurbut without much investment. The Rice farmers also prepare a special oil by boiling Arusa leaves in base oil. As base oil Til (Sesame seed oil) is used. The leaves are boiled till the evaporation of watery contents. This special oil is considered useful in treatment of joint pains. Its popularity among them clearly indicates its efficacy. The traditional healers, aware of this oil, add more herbs in it to make the oil more promising but the Rice farmers are satisfied with Arusa leaf based oil. During survey I have noted that this region is rich in natural population of Arusa. It is collected in bulk from this region for commercial trade. The senior Rice farmers informed about common uses of Ajwain (*Carum copticum*). They use it internally to nullify the harmful effects of Afeem (Opium). They claim that the regular intake of Ajwain helps them to get rid from the bad habit of Afeem consumption. This was new information for me. In treatment of Malarial fever, they prepare a special decoction by boiling Ajwain and Kalmegh (*Andrographis paniculata*) herb in water. The whole herb of Kalmegh is used for this purpose. The decoction is taken internally many times a day. Every day fresh decoction is prepared. They also use this decoction in treatment of common fevers. I have mentioned in previous articles that Dhikuar Guda (Aloe Vera pulp) and Fudhar Doodh (*Calotropis gigantea* latex) are applied externally on body parts having injuries with spines in order to dissolve the spines. The Rice farmers of Bhopalpatnam region use the leaves of Dhatra (*Datura* sp.) for this purpose. The leaves are crushed and an aqueous paste is prepared. Gud (Jaggery) is added in paste and applied on affected parts. You will be surprised to know that the traditional healers of this region were not aware of this use. When I informed them, they tried and found it really effective.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am proud to document this knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 144. Fountain tree (*Spathodea campanulata*, family Bignoniaceae).

According to the reference literatures, Fountain tree is a tall tree native of Tropical Africa. It is grown as avenue tree and also cultivated in coffee states for shade. In Chhattisgarh, I have seen this tree in isolated patches. I am not aware whether its presence in roadside, is plantation done by the authorities or it is growing wild. The natives and traditional healers of Chhattisgarh have yet not coined its name. Many senior healers claim that this tree is relatively a new introduction. This is the reason they are not aware of its medicinal properties and uses. In reference literatures, the use of its bark, fruits and leaves in treatment of ulcers, skin diseases, dysentery, kidney troubles and urethral inflammation have been reported. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers specialized in treatment of Renal Calculi (Pathri) are aware of the use of its bark but as other promising alternatives are available, they use it less frequently. The important observation I have noted during the survey was that the many traditional healers specially the healers of Northern Chhattisgarh suggest the patients having any type of pain to sit upto long time in the shade of this tree. I have mentioned in previous articles that the 'Tree Shade Therapy' is in existence in Chhattisgarh. Although the healers are unable to give the scientific explanation but their depth faith in this therapy motivated me to write a separate article and to document this important traditional knowledge.

Officially, the name of this tree and its plant parts is not mentioned in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this observation.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 146. Dudhia Jadi (*Porana paniculata*, family *Convolvulaceae*).

According to the reference literatures, Dudhia Jadi is a climbing shrub, native to India and grown as an ornamental. In Chhattisgarh, this ornamental herb is increasing the beauty of natural forests. The natural forests of Chhattisgarh are rich in its wild population, but it is a matter of surprise that the herb collectors and traditional healers are not much aware of its medicinal uses and properties. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information of its traditional medicinal uses. The traditional healers and herb collectors are well aware of styptic properties of its leaves. When they get injuries during field visits, they use many herbs and herbal combinations to check the bleeding immediately. Dudhia Jadi is one of these herbs. The traditional healers of Southern Chhattisgarh add its young roots in dry form in popular herbal combinations used in treatment of Bavasir (Piles), internally. In case of Bleeding piles, they prefer the use of leaves in place of roots, in combination with other herbs. The traditional healers of Gandai-Salewara region are aware of its potential in treatment of Gout but as other promising alternatives are available, this herb is used less frequently. These traditional medicinal use have yet not been reported in reference literatures.

Officially, the name of Dudhia Jadi is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors have confirmed this observation.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Raipur region.**

Through the interactions with the Rice farmers of Raipur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers informed me that in treatment of swellings they use the powdered rhizome of Kali Haldi (*Curcuma caesia*). The powder is applied externally on affected parts. This is a matter of surprise that Kali Haldi is not a herb found in this region and farmers are dependent on local herb shop owners for the rhizome. Instead of this problem, they are using it with deep faith. In general, the use is continued till complete cure. They are aware of its other medicinal properties and uses. I have observed during the surveys, that many farmers have planted it in their home gardens for its use as medicine. The Rice farmers of this region use Dhaincha (*Sesbania* sp.) flowers in treatment of Rataundhi (Night Blindness) both internally as well as externally. Externally, the juice of flower is applied into the eyes. They also roast the flowers in cow ghee and give internally. It is considered as one of the promising treatments. The traditional healers of Raipur region aware of this use confirmed its efficacy. Many farmers use this herb as green manure in commercial cultivation of Rice, and it is buried in soil at flowering stage. They are also aware of its use in treatment of Malarial fever but this use is not popular among them. Many senior farmers informed about the use of decoction of Muchkand (*Pterospermum suberifolium*) flowers in treatment of skin related troubles. The affected parts are washed with this decoction. They use it in complicated cases. In general they use the seeds of Charota (*Cassia tora*) for this purpose. Charota grows as wasteland weed in this region and farmers have kept it in the category of medicinal weeds. They earn an additional income by selling its seeds and other plant parts to the herb collectors. The use of Charota leaves as pot herb is also popular among them. The Rice farmers informed that the bark of Sal (*Shorea robusta*) can be used in treatment of fevers. The bark is used in form of decoction. Sal is well known tree in this region. It is known for its timber. The farmers suggested me to keep the Kenchuli (Shredded outskin of snake) with cloths and books. According to them, the Kenchuli restrict the attack of storage pest. Later I tried it and found it specially beneficial against silver fish. In treatment of

common cough and cold, they use the seeds of Sirsa (*Albizia lebbeck*). The seeds are crushed and with the help of water, an aqueous solution is prepared. Few drops of this solution are applied into the nostrils as treatment. This is considered as simple but promising use.

Although the Rice farmers of this region are near to the capital city Raipur but unfortunately they are not getting good prices for medicinal weeds, as expected. The ignorance about its end uses and national rates, these farmers are not getting good returns. Many times I tried to convince the farmers but I have noted that it is beyond the reach of farmers to do the marketing. The state authorities can play the great role in this regard.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 143. Lal Bichhua (*Fleurya interrupta*, family *Urticaceae*).

The traditional healers of Chhattisgarh use this herb in treatment of all types of wound particularly in treatment of Nasoor (Carbuncle). Lal Bichhua is not its local name. It is its Hindi name mentioned in reference literatures. The natives of Chhattisgarh have yet not coined its local name. The traditional healers of different parts of Chhattisgarh use different parts of this herb in different ways in treatment of carbuncle. Its leaves are used popularly for this purpose. The leaf juice is applied externally but the traditional healers of Bilaspur region use the decoction of leaves in treatment. The traditional healer of Mudpar village use the decoction of whole herb for this purpose. The herb collectors of Gandai-Salewara region are also aware of this use. But they use it in combination with other herbs. The purpose of addition of other herbs is to nullify the harmful effects of this herb the collectors informed. These observations motivated me to write a separate article on Lal Bichhua. In reference literatures, its uses as diuretic and in treatment of Carbuncle are mentioned.

Officially, the name of Lal Bichhua is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this information. The comment of Shri Vishal Bharat, a well known traditional healer of Bastar region, that this herb can be used in treatment of different types of cancer (although he was not using it), emphasize the need to conduct the systematic research on this aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Jashpur region.

Through the interactions with the Rice farmers of Chhattisgarh, India. I have collected valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Jashpur region informed that the flowers of Mooli (Radish) are beneficial for troubles related to respiratory system. The flowers are collected and roasted with the help of cow ghee. The roasted flowers are taken internally as treatment. Radish is well known vegetable crop in this part of Chhattisgarh. The Rice farmers use the inner soft portion of Mango fruit stone (Ama Guthli) as sex tonic. It is taken internally in form of aqueous paste. They recommend its use to newly wed couples. In general, the farmers, take it upto one month in order to get good sexual health round the year. In treatment of all types of cough, they use the seeds of Utangan (*Blepharis edulis*) internally. The traditional healers of Jashpur region are also aware of this use but they suggested the use of Utangan seeds in combination with other herbs. The farmers take seed powder in combination with Shahad (Honey). In treatment of problems due to excessive heat inside the body, the Rice farmers use the seeds of Untkatara (*Echinops echinatus*). Untkatara grows as field as well as wasteland herb in this part of Chhattisgarh. The seeds are considered good for brain also. During ethnobotanical surveys I have seen many species of Kevatch (*Mucuna* sp.) in this part of Chhattisgarh. The natives and traditional healers

have in depth traditional medicinal knowledge about this herb and its different parts. Many senior Rice farmers informed that the leaf juice of Black seeded Kevatch is very useful in treatment of Garbi (Syphilis). The juice is taken internally empty stomach, daily morning. The traditional healers, aware of this use, informed that the leaf juice can be taken internally as supplement treatment to main treatment. The juice is also considered beneficial for intestinal worms. The Rice farmers are aware of many uses of Kuraiyya or Korai (Wrightia tinctoria) flowers. The flowers are roasted and taken internally. This internal use is considered promising in treatment of troubles related to digestive system. It is promising appetizer. Many senior farmers consider it as promising blood purifier also. although the Rice farmers of this region are not much aware of medicinal properties and uses of common weeds but they are earning from these so called waste plants. During interaction, they also informed about the cultivation of medicinal rice varieties in early days. Majority of the Rice farmers in this region are engaged in organic farming of major crops. This is good sign.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. The deep faith in traditional medicinal knowledge, the farmers of Jashpur region are having, is the matter of appreciation.

Thank you very much for reading the article.

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Recent Interactions with Shri D.D. Verma, a well known herb grower of Tilda region, Chhattisgarh, India.

Although we live in same city and interact very frequently in his home and farms but from few months, due to other commitments we missed the chance to interact with each other. Yesterday, we talked many hours and shared our experiences. I am giving the details in present article. I suggest the new readers reading this article directly to read previous articles in which I have mentioned Shri Verma's rich experiences and experiments with Indian medicinal and aromatic crops.

Shri Verma is only farmer in Chhattisgarh (Probably in India) who is cultivating Gulbakawali (*Hedychium coronarium*) herb as medicinal crop at commercial scale. I have mentioned in previous articles that the traditional healers of Chhattisgarh particularly the healers of Pendra and Amarkantak regions use the extract of its flower in treatment of eye related troubles. It is considered as a boon for the patients of Motiabind (Cataract). Shri Verma is in process of developing its Agronomical practices. He presented me the first lot of extract, extracted by using indigenous method. In this method, he is mixing Gulbakawali flowers and distilled water in 1:2 ratio and by boiling, he is collecting the extract through steam. From medicinal use point of view, this method is very good. When he distributed the samples of extract to the traditional healers for trial, the traditional healers got good results. The traditional healer of Mudpar village Shri Hanumat Prasad informed that he has treated ten patients having very poor eye sight successfully. The extract is applied simply inside the eyes. From commercial point of view, this diluted extract is not promising. I suggested Shri Verma to go for Patal Yantra method and try to collect pure extract. I am in the process of analysis of sample collected from him. I also suggested him to extract the oil from its rhizomes. It is mentioned in reference literatures that an essential oil, obtained from rhizome, is active against gram positive bacteria and fungi. The powdered rhizomes are used in medicines as febrifuge and decoction is considered antirheumatic and tonic.

Shri Verma informed that due to excessive rainfall this year, the growth of Safed Musli (*Chlorophytum borivilianum*) suffered a lot. He showed poorly developed tubers of Safed Musli. According to him, the flowering has occurred in very few plants due to this excessive rainfall. Last year I advised him to use PSB (Phosphorus solubilizing Bacteria) culture in crop fields in order to increase the phosphorus availability. He informed that the results are encouraging and in these fields, the loss due to excessive rainfall was very less. The roots are of normal size. The Musli farmers of other states can take advantage of this research finding without any delay. But take enough precaution to use good quality PSB culture. Shri Verma showed worry on introduction of poor quality planting material by many new plant suppliers. He informed that how these new plant suppliers are cheating the common farmers. By selling the small sized tubers of inferior species, they are fooling the farmers that apply the chemical inputs in bulk and you will get the longer and thicker tubers in two-three years. In reality it is not possible. With the help of heavy chemical inputs we can not change its genetical structure. Shri Verma further informed that the excessive rainfall caused considerable damage to Aloe vera crop also. This year the quality of Gel is very poor. He is increasing the area of Safed Musli, Bach (*Acorus calamus*) and Jimikand (*Amorphophallus campanulatus*). He is not satisfied with the growth of Sarpagandha (*Rauvolfia serpentina*). I advised him to apply cow dung solution as foliar spray in order to promote its growth. He has planted Bramhi herbs (*Bacopa monnieri*) in small area. A researcher of Bilaspur region has presented him this herb with advise that this is beneficial crop. Shri

Verma informed that Bramhi is present in wild in bulk and there is no need of its cultivation. I am also aware of this fact but unfortunately the researchers promoting its commercial cultivation are not aware of this fact and as result, the herb growers who have planted this herb in large scale, will be in big trouble in near future.

During interaction Shri Verma gave me the list of medicinal rice varieties that were under cultivation in past. He has collected these varieties from senior farmers. I will give the details about these varieties in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India 179. Meetha Bhat.

Meetha means sweet and Bhat means cooked rice. This preparation is very popular among the natives of Chhattisgarh particularly in region where Ganna or Kusiari (Sugarcane) is under cultivation. The natives of all age group specially children consume this preparation with taste. The traditional healers are aware of its health benefits. This preparation is considered as promising body tonic. It is specially recommended to the patients recovering from exhaustive diseases and to women after pregnancy. According to the traditional healers its regular use, increases fat in body and helps in managing the problem of constipation.

Material Required: Sugarcane juice and Rice grains.

Method of Preparation: The method is simple. The Rice grains are cooked in sugarcane juice. In many parts the natives add sugarcane juice in half cooked rice and cook it completely. Both methods are popular.

For the botany, traditional and reported medicinal uses of Sugarcane please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 142. Bhui Crendi (*Sebastiania chamaelea*, family Euphorbiaceae).

The traditional healers of Chhattisgarh specialized in treatment of sex related troubles frequently use this herb in treatment, alone or in combination with other herbs. Although they claim that this herb is present in all parts of Chhattisgarh but I have yet not seen it in wild. During the ethnobotanical surveys when I showed the photographs of this herb to the herb collectors, they identified it easily. This is a matter of surprise that they have yet not coined its local name. Bhui Crendi is its name popular in Konkan region of India. In treatment of sex related troubles, the traditional healers of different regions use it in different ways. The traditional healers of Gandai-Salewara region use its roots in treatment of Gonorrhoea (Sujak) whereas the traditional healers of Sarguja region use the whole herb juice for this purpose. The healers of Gandai-Salewara region consider the whole herb juice best in treatment of Garma (Syphilis). The traditional healers of Southern Chhattisgarh use the decoction of root and stem bark in treatment of both diseases. The traditional healers are not aware of its other medicinal uses. In reference literatures, it is mentioned that the juice of the plant in wine is used as an astringent whereas a decoction of the plant in clarified butter is considered to be tonic and applied to the head in vertigo. I have informed about these reported uses to the traditional healers. They are showing interest in new uses and conducting experiments for confirmation.

Officially, the name of this herb is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 142. Bhui Crendi (*Sebastiania chamaelea*, family Euphorbiaceae).

Gariaband region is rich in natural forest. This is the reason the Rice farmers of this region are well aware of medicinal uses of common herbs as well as forests herbs. Through the interactions with them I have collected more valuable information. I am giving the details in present article.

The Rice farmers of Gariaband region are well aware of many medicinal uses of Pader (*Stereospermum personatum*) tree. They use its flowers in treatment of Diarrhoea. The flowers are roasted with the help of cow ghee and taken internally. In general, when all remedies fail, the farmers use Pader flower for treatment. The flowers are also considered very useful in treatment of diseases related to respiratory system. For this purpose, the flowers are used in same manner. To stop all kinds of bleeding both internal as well as external, the Rice farmers use its fruits. It is considered as one of the promising uses for bleeding. The internal use of fruit is also beneficial in treatment of Hichki (Hiccup). The traditional healers of Gariaband region are also aware of these uses. They confirmed its promising effects. In treatment of troubles related to urinary system, the Rice farmers use the root bark of Phalsa (*Grewia asiatica*). The bark is dipped in water overnight and next day leachate is taken internally, empty stomach. According to them, within few days they get rid from troubles. Many senior farmers are aware of its use in treatment of Sujak (Gonorrhoea) but in such case, they prefer to consult the traditional healers for systematic treatment. Bemchi (*Psoralea corylifolia*) grows as rabi (winter) season weed in this part of Chhattisgarh. The Rice farmers are aware of its medicinal properties and uses. Many

of them informed that the seeds of Bemchi can be used as heart tonic. The patients are advised by them to take powdered seeds in small doses. The farmers have kept Bemchi in the category of medicinal weeds. They earn an additional income by selling its seeds to the herb collectors and traders. Many farmers extract the oil from Bemchi and supply it to the herb collectors. These farmers use this oil as blood purifier and in treatment of skin related troubles both internally as well as externally. The Rice farmers of Gariaband region use the sprouts of Bans (Bamboo) internally in treatment of chronic constipation but it is taken in small doses. They are aware that overdose can cause the problem of Diarrhoea. The traditional healers of this region added that the patients having the problem of respiratory troubles must avoid the use of these sprouts as its intake can aggravate the troubles. I have informed the Rice farmers about the healer's comments. The youths having the problem of Nocturnal emission (Night Pollution) are advised by the Rice farmers to take the latex of Bar (*Ficus benghalensis*) internally with sugar in small doses. The use is continued till complete cure. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the latex as aphrodisiac and sex tonic. The Rice farmers of Gariaband region are aware of this use. Many senior farmers informed that the latex can be used in treatment of spermatorrhoea successfully. Bar is well known herb of religious and medicinal importance in Chhattisgarh. In treatment of Dysmenorrhoea, the senior farmers of this region are aware of use of Bet (*Calamus rotang*). The juice of whole herb is given to the patients internally but as other promising alternatives are available, this use is now becoming a thing of past. From documentation point of view, it is an important information. The Rice farmers informed that the seeds of Bhang (*Cannabis sativa*) can also be used as Aphrodisiac but they do not use it popularly. According to them, the use of Bhang seeds internally creates vision problem in human beings. This was new information for me.

I have noted during the survey that the Rice farmers of this region, also collect the herbs from nearby forests after harvesting of crops. This is the reason they have deep knowledge about all types of herbs.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 141. Bhandra (*Geranium ocellatum*, family Geraniaceae).

Few months back, a dedicated forest officer of Pendra region when informed the experts of Lucknow about natural occurrence of this herb in Chhattisgarh, they refused to accept this presence. In fact, Geranium is well known medicinal herb in Chhattisgarh and the herb collectors and traditional healers are well aware of its medicinal properties and uses. In reference literatures, the uses of its roots as astringent, diuretic and as remedy to renal diseases have been mentioned. Shri Vishal Bharat, a well known traditional healers of Southern Chhattisgarh, was using the whole herb of Geranium in combination with other herbs in treatment of different types of cancer. According to them, the roots alone can be used but the use of whole herb nullifies the harmful effects of roots. The other traditional healers specialized in treatment of this trouble are aware of this important weed. The traditional healers of Nagri-Sihawa region use its roots at last stage of Pthisis, when all remedies fail. Aware of its unique medicinal properties and uses, the traditional healers of Chhattisgarh always keep the herb or herb parts with them. The traditional healers of Mudpar village informed that the herb can be used in treatment of Arsenic poisoning successfully. Bhandra is not its local name. In reference literatures, this name is mentioned as Hindi name. The traditional healers have yet not coined its standard name and for ease, they use names based on its growth pattern.

Officially, the name of Geranium is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this observation. In Homoeopathic system of medicine, Geranium maculatum drug is popularly used in treatment of haemoptysis and haematemesis. I am eager to evaluate the medicinal properties of native Geranium species as Homoeopathic drug. Through this article I would like to request the researchers to focus their studies on the use of this wasteland herb as Homoeopathic drug.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Rice farmers of Dongargarh region.**

Through the interactions with the Rice farmers of Dongargarh region, I have collected many valuable information on traditional medicinal uses of common weeds as well as forest herbs. They also informed me about the use of medicinal insects. I am giving the details in present article.

Bhata (*Solanum melongena*) is well known vegetable crop in this part of Chhattisgarh. The natives consume it through different dishes and curries. Matured fruits of Bhata are used for this purpose. The Rice farmers informed that the immature fruits of Bhata also possess valuable medicinal properties. They use it internally in treatment of liver related troubles. This was new information for me. The traditional healers of Dongargarh region confirmed its promising effects. The Rice farmers of this region are well aware of many common uses of Boir (*Ziziphus* sp.) plant parts. They collect its wood and prepare the powder. This powder is kept for future use. According to them, this powder is very useful in treatment of injuries. It stops the bleeding immediately. Many senior farmers informed that this powder can be used internally also for the same purpose. The traditional healers confirmed this effect but added that the problem of internal bleeding can be managed by other herbs also. This is the reason they use this wood powder rarely. From documentation point of view it is an important information. The Rice farmers also use the decoction of leaves in treatment of brain related troubles. It is considered as promising brain tonic. In general, they try to manage this trouble with leaf decoction but in case of complications, they consult to the traditional healers for systematic treatment. They use the wood and leaves of indigenous varieties of Boir only. Many farmers informed that the roots of Rumkalia (*Abelmoschus esculentus*) can be used in treatment of gynaecological troubles. In general, the roots are taken internally in powder form but the traditional healers informed that the decoction of root is more promising in effects. The roots are considered specially beneficial for Dysmenorrhoea. Rumkalia is under cultivation as vegetable crop. In throat related troubles, the Rice farmers of this region use the seeds of Masoor (*Lens esculenta*). The seeds are boiled in water and decoction is prepared. The decoction is used as gargle. Masoor is under cultivation as pulse crop. They further informed that this decoction is also useful in treatment of stomatitis. It is used in same manner. Makra (*Dactyloctenium aegypticum*) is a common grassy weed in Rice fields. The Rice farmers of Dongargarh region use this weed both internally as well as externally in treatment of spider poison. In normal cases, the juice of whole herb is applied on affected parts whereas in complicated cases the juice is taken internally also. they are not much aware of its other medicinal uses. You will be surprised to know that many senior farmers are aware of use of excreta of Housefly as medicine. The excreta is crushed into fine powder and in combination with sugar, given to the patients without disclosing the ingredients. They use it in treatment of all types of vomiting. The traditional healers of this region confirmed its promising effect and informed that they have used it in many cases when all other remedies failed. The senior farmers further informed that in early days they have seen the use of Safed Musli (*Chlorophytum* sp.) tubers in treatment of Haija (Cholera). In early days, Haija was problematic epidemic. They failed to inform the detailed method of its use. They suggest the pregnant

women having the problem of Abortion to keep a piece of cloth dipped in aqueous solution of Semar Gond (*Bombax ceiba* Gum) inside the vagina, in order to avoid any such chance.

The uses of different plant parts of different vegetable crops and excreta of Housefly are unique information. The deep faith of these Farmers in this traditional medicinal knowledge clearly indicates its efficacy. This is really a good experience to document such important knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh having less known traditional uses. 140. Dhenani (*Olex scandens*, family : *Oleaceae*).

In Chhattisgarh, Dhenani is popular as Safed Van among the traditional healers and herb collectors. Possibly they have named this herb on the basis of its white flowers having rich medicinal properties and uses. The traditional healers use the flowers alone or in combination with other flowers in treatment of heart related troubles. They also prepare Gulkand from these flowers. According to them, the flowers reduce the extra heat from body and helps in maintaining the heat balance. Its utility in maintaining the heat balance, helps the healers to use it in treatment of fever. The traditional healers of Chhattisgarh use this herb as important ingredient in popular combinations used in treatment of Anaemia. The herb collectors collect its barks and roots from wild for commercial trade whereas the herb vendors collect its flowers for the traditional healers. You will be surprised to know that officially, its name is not present in the list of medicinal herbs of Chhattisgarh having any demand.

According to the reference literatures on flora, botanically, Dhenani is scandent, much-branched shrub, often prickly; Leaves ovate-oblong or oblong-lanceolate, usually obtuse, glabrous above, glabrous or pubescent beneath, base narrowed; Flowers white, fragrant, in axillary racemes which are shorter than the leaves. Drupe aoid or globose.

Many herb collectors informed that they use its fragrant flower in treatment of common headache. It is inhaled simply. The herb vendors of Bagbahera region informed that they keep its flower under the pillow, in order to repel away the Khatmal (Bed bug). These traditional uses have yet not been reported in reference literatures. I am feeling proud to document this important knowledge.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Khairagarh region.**

Through the interactions with the Rice farmers of Chhattisgarh, India I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

For the Rice farmers of Khairagarh region, Parwal is well known vegetable crop. Its fruits are used as vegetable. In many parts of Chhattisgarh, its fruits are used to prepare sweet dish also. The Rice farmers use its leaves in treatment of Acidity. The freshly collected leaves are crushed and juice is extracted. This juice is taken internally. For off-season use they dry the leaves in shade and crushed into powder. This powder is stored. In case of need, one teaspoonful of powder is taken internally with lukewarm water. It is considered as one of the promising treatments of Acidity. This was new information for me. The Rice farmers consider the internal use of cow ghee beneficial as brain tonic. They prepare a special combination by mixing, Kali Mirch (*Piper nigrum*) and sugar in it and one teaspoonful combination is given to the school going children every morning. The traditional healers of Khairagarh region are also aware of this use. They confirmed its promising effects. Medicinally, cow ghee is preferred to the buffalo ghee. Like the natives and traditional healers of other parts of Chhattisgarh, the Rice farmers of Khairagarh region are also aware that the herbal dish prepared from Chiraunji (*Buchanania lanzan*) is promising body tonic. It is also a good sex tonic. Chiraunji is well known tree in this part of Chhattisgarh. Many senior Rice farmers informed that in early days they were using the wood powder of Lal Chandan (*Pterocarpus santalinus*) in treatment of poison. According to them, this wood powder is having the capacity to nullify all the harmful effects of poison. According to them, this wood powder is having the capacity to nullify all the harmful effects of poison. Muscaini is a common weed in Rice fields and wasteland. Its scientific name is *Ipomoea reniformis*. The natives of Chhattisgarh popularly use it as pot herb. The Rice farmers of Khairagarh region use the leaf juice of Muscaini in treatment of Mirgi (Epilepsy). During attack, few drops of its leaf juice are applied into the nostrils as treatment. They also recommend its use in same way in normal days. You will be surprised to know that the traditional healers of this region were not aware of this unique use. When I informed them, they tried and found it really effective. In treatment of throat related troubles, the Rice farmers use the freshly extracted juice of Shahtoot (*Morus alba*) fruits. They also use the decoction of its roots in form of decoction. They use the Neem Mad, the natural exudates of Neem trees, in treatment of skin troubles. This Mad is used to wash the body before bath. They never miss the chance to collect this Mad. They informed that the internal use of this Mad, is a promising blood purifier.

The Rice farmers informed that many local shop owners and herb collectors purchase the common weeds from them. Charota (*Cassia tora*), Sarphonka (*Tephrosia purpurea*), Bathua (*Chenopodium album*), Hulhul (*Cleome viscosa*), Gondla (*Cyperus* sp.), etc. are among these weeds. The farmers do not use weedicides to manage these so called unwanted plants. The manual weeding protects the herbs well for market. But like the Rice farmers of other parts of Chhattisgarh, these farmers are also not getting good return from the common weeds.

The in depth traditional medicinal knowledge about common weeds, the Rice farmers of Khairagarh region are having, is the matter of appreciation. The important observation is that they are using this traditional knowledge in their routine life successfully.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India, having less known traditional uses. 137. Nagbel (*Cryptolepis buchanani*, family : *Periplocaceae*).

The traditional healers of Chhattisgarh plains use this herb in combination with other herbs in increasing the flow of milk in breast. This use is very popular among them. The traditional healers of Southern Chhattisgarh use the aqueous extract of its leaves in treatment of boils. According to them, its application suppresses the boil effectively. The floss collected by this herb is used in treatment of Adhasisi (Migraine), in many parts of Chhattisgarh. The floss is given a shape of hat and the patients are advised to wear this hat, during attack. According to the natives, this hat reduces the pain to great extent. The traditional healers of these parts are not aware of this unique use. The herb vendors of Chhattisgarh prepare a special locket using its dry root. The natives having the problem of Hysteria are advised by them to wear this locket. It is also common belief among them that this locket protects the small children from evil spirits. The above mentioned traditional medicinal uses have yet not been reported in reference literatures. Its use in treatment of Rickets is mentioned in reference literatures. The healers are not aware of this use.

Officially, the name of Nagbela is not present in the list of medicine herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this

information. The herb vendors collect its different parts for the lockets and to supply it to the traditional healers. The traditional healers aware of its different uses are using this herb in their routine practice. Its popularity among them clearly indicates its efficacy.

Nagbela is present as wasteland herb in Chhattisgarh. Through the on-going ethnobotanical surveys I am trying my best to gather more information on various utility aspects of this herb. I personally feel that by searching and developing its potential uses, this wasteland herb can be used to earn addition income and to generate more revenue for the state.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Kanker region.

Through the interactions with the Rice farmers of Kanker region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Kanker region informed about many medicinal uses of Kusiar (*Saccharum officinarum*). I have mentioned in previous articles that wild species of Kusiar occurs naturally in forests of Kanker region. They prepare a special herbal dish by cooking the rice grains in Kusiar stem juice. This dish is known as 'Meetha Bhat' This preparation is specially recommended as tonic to the patients recovering from exhaustive diseases. The farmers further informed that Meetha Bhat is suitable for growing children also. Due to its delicious taste, this preparation is very popular in this region. Many senior farmers informed that the combination of Jau (Barley)

leaf juice and Kushiar leaf juice acts as strong laxative and this combination is a boon for the patients having the problem of chronic constipation. In treatment of Diarrhoea, the Rice farmers of this region use the seeds of Limau (Lemon). The seed is collected and dried in shade. After drying, it is converted into powder. This powder is taken internally with Kali Mirch (*Piper nigrum*) and Namak (Salt). The traditional healers of Kanker region are also aware of this use. They suggested the use of roasted seeds of Limau in order to get more promising effects. They emphasized that the seeds must be converted into fine powder. Lauki (*Lagenaria siceraria*) is well known herb in Chhattisgarh. Its fruits are used as vegetable. The Rice farmers roast the matured fruits of Lauki and extract the juice. This juice is considered as a boon for the patients having heart troubles. One glassful juice is given once in a day upto specific time. In general, the farmers never miss to utilize Lauki fruits in this way during growing season. The traditional healers added that this juice is beneficial for liver also. They suggested to keep the fruits inside the hot ash upto long time in order to get more strong juice. In treatment of Chronic constipation many farmers are aware of use of Supari (Betel nut). The nut is boiled in water and decoction is taken internally as treatment. As other promising alternatives are available, the Rice farmers use it less frequently in routine life but from documentation point of view, it is an important information. Many Rice farmers use the flowers of Harshringar (*Nyctanthes arbor-tristis*) in treatment of extra body heat. Harshringar is well known ornamental herb planted in home gardens. The flowers are roasted with the help of cow ghee and taken internally. According to them, its regular use removes extra heat from body and helps in maintaining the heat balance. Many senior farmers informed that the roasted flowers possess aphrodisiac properties. Like the natives and traditional healers of other parts of Chhattisgarh, the Rice farmers of Kanker region are aware that the leaf juice of Hurhur (*Cleome viscosa*) is beneficial in treatment of Earache, but they warned that one must be very careful while using this juice because in many cases, the application of juice result in irritation. In such cases, the use of juice must be avoided. Hurhur occurs as wasteland weed in this part of Chhattisgarh. Many farmers confirmed that the herb collectors, local shop owners and herb traders purchase this herb and herb parts in dry form and in this way, they earn an additional income from this wasteland herb. Although the problem of rat bite is not a common in this region but in such case the Rice farmers use the leaf extract of Bakain (*Melia azedarach*) externally in treatment.

During interactions, the Rice farmers informed about many medicinal rice varieties and the medicinal values of insects feeding on these varieties. Many senior farmers promised me to give the seeds of these medicinal varieties. I am planning to conduct a special ethnobotanical surveys on this important aspect, in near future. You will find the details in coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 177. Kancharia Bhaji.

The scientific name of Kancharia is *Alternanthera sessilis* (*Alternanthera omoena*). Kancharia occurs as wasteland weed in Chhattisgarh. In many parts of India, it is under cultivation as vegetable crop. The natives prepare its Bhaji (Curry) and consume it with taste. They are not aware of its health benefits. The traditional healers and senior natives, consider this preparation very useful in treatment of the patients having gynaecological troubles. They instruct the natives particularly the female natives having such problem to never miss the chance of its use during growing season in order to get good health and prevent the attack of troubles.

Material Required: Kancharia leaves and young twigs, Lason (Garlic), Noon (Slat), Tel (Oil), Hardi (Turmeric), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Kancharia leaves and young twigs are cut into small pieces. These pieces are added in pan with all other ingredients. The mixture is roasted well. The curry is served hot with Bhat (Cooked rice). The natives of different regions prepare it by using different methods.

For the botany, traditional and reported medicinal uses of this herb please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 136. Kaina Van (*Floscopa Scandens*, family *Commelinaceae*).

Although this herb is present in Chhattisgarh in abundance but this is a matter of surprise that the traditional healers are not much aware of its medicinal uses and properties. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this herb. The traditional healers of Pendra region use extract of its juicy stem in treatment of Garma (Syphilis). It is given internally to the patients. They use its extract as supplement treatment to main treatment. To suppress the growing boils, many traditional healers of Bagbahera region use the aqueous paste of this herb. The paste is applied on boils. It is considered as one of the promising treatments. It is mentioned in reference literatures that the tribal of Assam state, use the juice of stem in treatment of eye troubles but unfortunately, the traditional healers of Chhattisgarh are not aware of this use. The traditional healers of Southern Chhattisgarh, add the stem of this herb in popular herbal combinations used in treatment of barrenness in women. The traditional healers of Narharpur region informed that its roots are used in treatment of open wounds but I have yet not observed its practical uses. In reference literatures related to different systems of medicine in India, I have yet not found any details regarding its medicinal properties and uses.

Officially, the name of Kaina Van is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Bhanupratappur region.

Through the interactions with the Rice farmers of Bhanupratappur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Bhanupratappur region use Kunkhajura (Centipede) as medicine. They kill this creature and dry it in shade. After drying it is wrapped in small piece of cloth and the cloth is dipped in Sarson (Mustard seed) oil. The cloth is burnt and remains are collected. The remains are applied into the eyes as treatment. It is considered as a boon for natives having poor eye sight. This was new information for me. Like the natives and traditional healers of many parts of Chhattisgarh, the Rice farmers are also aware of use of medicinal insect Gubraila (Dung beetle). They use it internally. The Dung beetle feeding on cattle dung is used as medicine. The insects are boiled in water and decoction is prepared. This decoction is taken internally. According to them, the internal use of decoction flushes out the toxic material from the body. This decoction is considered as a boon for the patients having the problem of constipation. You will be surprised to know that the traditional healers of Bhanupratappur region are not aware of these uses. When I informed them, they showed ignorance and appreciated the in depth traditional knowledge the Rice farmers are having. Later, they tried it in their routine practice and found it very effective. I have mentioned in previous articles that the natives and traditional healers are aware of medicinal properties and uses of Doomar (*Ficus glomerata*) fruits and insects present inside the fruits. They consume the fruits without opening it, aware of fact that the insects are present inside it. The Rice farmers of Bhanupratappur region are also aware of this fact. The fruits with insect are considered by them, useful in treatment of eye related troubles. They also use the ash of Doomar wood collected after burning in treatment of wounds. The ash is applied externally on wound. The Rice farmers informed that this ash can be used in treatment of complicated wounds successfully. The traditional healers have confirmed the miraculous effects of wood ash. The Rice farmers of this region use the leaves of Chaulai (*Amaranthus viridis*) as curry. They are aware of its health benefits also. this preparation is considered very useful for the patients having chronic cough. In treatment of Insanity, the Rice

farmers use Nishoth (*Ipomoea turpethum*). It is taken internally with Sonth (dried Ginger). Bhanupratappur region is rich in natural population of Nishoth herb. In treatment of swelling, as home remedy the Rice farmers use the leaves of Pudina (*Mentha* sp.). The leaves are crushed with the help of stone and by mixing Sirka (Vinegar), an aqueous paste is prepared. This paste is applied externally on swellings. According to them, in most of the cases, this simple treatment cures the trouble but in case of complication, they consult the traditional healers. Pudina is grown in home gardens. The Rice farmers informed me about Vanslochan based herbal combination, they use it treatment of Whooping cough. Vanslochan is a silicious concretion found in the joints of bamboo herb. The Rice farmers mix Vanslochan, Fitkari (Alum) and Sugar in equal proportion and prepare a herbal combination. This combination is given internally to the patients. The use is continued till complete cure. The farmers informed that in few doses this combination cure the trouble effectively.

During interaction, I have collected a long list of medicinal rice varieties that were under cultivation in early days. Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I personally feel that the unique uses of Centiped and Dung beetle need scientific attention.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 135. Rassi Van (*Rotula aquatica*; family Ehretiaceae).

Rassi Van grows as wasteland herb in Chhattisgarh. Rassi means Rope locally. The stems of this herb are made into ropes. This is the reason the natives have named it as Rassi Van. In reference literatures its use in treatment of Piles, bladder stone and venereal diseases have been reported but the traditional healers of Chhattisgarh use it in treatment of other diseases. They use its roots and leaves most commonly. The traditional healers of Chhattisgarh Plains, add its roots in form of powder, in popular combination used as heart tonic. Before adding the roots, they dip it in water overnight and next day, dry the roots in shade. According to them, this treatment helps in eliminating the toxic contents of roots. The traditional healers of Southern Chhattisgarh are not in favour of this soaking treatment of roots before use. I personally feel that it is a matter of scientific investigation that whether roots possess toxic component or not. The traditional healers of Nagri-Sihawa region use its leaf juice in combination with other herbs, externally in treatment of skin diseases. The use of leaf juice internally is considered as blood purifier but as other promising alternatives are available, the healers use it less frequently. The traditional healers of Gandai-Salewara region boil the leaves in water and after cooling the softened leaves are applied in form of aqueous paste, in painful joints. This application helps in reducing the pain. They also add more herbs in it to make the combination more promising. These traditional medicinal uses have yet not been reported in reference literatures.

Officially the name of Rassi Van is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Dalli-Rajhara region.

Through the interactions with the Rice farmers of Dalli-Rajhara region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Dalli-Rajhara region informed me about the use of Sisham (*Dalbergia sissoo*) pods in treatment of Stomatitis. The pods are boiled in water and decoction is prepared. The patients are advised to gargle with this decoction. This is considered as one of the promising treatments. Sisham is a common tree planted along roadside. It is well known tree among the natives of this region. The traditional healers of Dalli-Rajhara region are also aware of the use of Sisham pods but they suggested that the use of empty pods gives more promising results. In treatment of Adhasisi (Migraine), the Rice farmers use the fruits of Reetha (*Sapindus emarginatus*). The fruits are dipped in water and leachate is collected. The patients are advised to apply few drops of leachate into the nostrils in order to get rid from intense headache. The natural forests around the Dalli-Rajhara are rich in Reetha herb. Bed bug (*Cimex* sp.) is a common insect in this region. The Rice farmers are aware of many uses of this insect. They use it as first aid measure in treatment of snake bite. They swallow a live insect after snake bite, before arrival of the traditional healers. According to them, this use helps the patients to remain active upto long time. The traditional healers are also aware of this use and they confirmed its promising effects. This was new information for me. In treatment of intense pain in sinus, the Rice farmers use the fruits of Khira (*Cucumis sativus*) in unique way. The fruits are cut into small pieces and the smell is inhaled. According to them this simple treatment helps in reducing the pain. It is also used by them in treatment of common headache. Many senior Rice farmers informed that the seeds of Gulab (Rose) can be used in treatment of vaginal pain. The seeds are crushed and with the help of water, small globules are prepared. These globules are kept inside the vagina, as treatment. In treatment of earache, as first aid remedy they use the leaf juice of Gonda (*Tagetes erecta*). The lukewarm juice is applied into the ears. In case of complications they approach to the traditional healers for systematic treatment. In treatment of toothache, they use the bark of indigenous species of Boir (*Ziziphus* sp.). the bark is collected and dried in shade. After drying it is boiled in water and decoction is prepared. The decoction is used in form of gargle. This decoction is also considered useful in treatment of Stomatitis. It is used in same manner.

The in depth traditional medicinal knowledge of these Rice farmers about common herbs useful in treatment of pain is a matter of surprise and appreciation. I have observed during the surveys

that the Rice farmers of this region are not much aware of use of weeds found in their crop fields as medicine. They showed interest in on going documentation work and co-operated well during the surveys.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 134. Chikhla Van (*Ruellia tuberosa*, family *Acanthaceae*).

According to the reference literatures, Chikhla Van is a herb or small shrub, native to Tropical America. It is grown as ornamental. The plant has emetic properties and used as substitute for *Ipecacuanha*. It is also used for treatment of bladder stones. In Chhattisgarh, according to the reference literatures on flora, it grows as wasteland herb. Many traditional healers and herb collectors confirmed its natural occurrence in many parts of Chhattisgarh. The reason behind its name Chikhla Van is its preference to grow in moist places (In local language Chikhla means muddy place). As Homoeopath, I am eager to evaluate its potential as Homoeopathic drug as it is used as substitute to *Ipecacuanha*. In Homoeopathy system of medicine, *Ipecacuanha* is used very frequently in order to prevent and cure the problem of vomiting. The herb collectors are aware of its natural occurrence but unfortunately they are not aware of its medicinal importance and demand at national markets. Many herb traders asked me about its utility and demand, during the ethnobotanical surveys. The senior traditional healers informed that this is a relatively new herb for them because it has introduced in Chhattisgarh few decades back. In this short duration they have discovered its many medicinal properties and use. They use it mainly in treatment of troubles related to respiratory system. The leaves are taken internally in form of decoction. During acute attack of Asthma, many times the healers suggest the patients to burn the dry leaves and inhale the fumes coming from burning leaves. According to them, this use

reduces the intensity of attack many folds effectively in very less time. The healers are aware of its emetic properties but they prefer Mainphal (*Randia dumetorum*) for this purpose.

Officially, the name of Chikhla Van is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. This is a positive sign that the experiments of the traditional healers with this herb are still on. I am expecting some promising discoveries in near future. You will get more details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Dondi-Lohara region.

Through the interactions with the Rice farmers of Dondi Lohara region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Dondi-Lohara region use the seeds of Jam (*Psidium guajava*) in treatment of Malarial fever. The seeds are collected and after shade drying crushed into powder. This powder is kept for future use. As treatment this powder is taken internally in combination with Shahad (Honey). In general, they try to manage this fever with the seed powder but in case of complication, they approach to the traditional healers for systematic treatment. The traditional healers of Dondi-Lohara region are also aware of this use. They use it as supplement treatment to the main treatment. They emphasized that the seeds must be converted into fine powder before use because many times the whole seed can cause the problem of appendicitis. Jam is

well known herb in Chhattisgarh planted in home gardens and orchards for its delicious fruits. The traditional healers and Rice farmers prefer the seeds of indigenous species for treatment. I have mentioned in previous articles that the natives plant Pudina (*Mentha* sp.) in home gardens for its use in different purposes. The Rice farmers of Dondi-Lohara region informed that in treatment of vaginal pain, the whole herb juice of Pudina can be used. A piece of cloth is dipped in this juice and kept inside the vagina. The use is continued till completed cure. The Rice farmers use spider web (Makdi Ka Jala) as medicine in treatment of nose bleed. A piece of web is taken internally with Gud (Jaggery) for this purpose. The web of common spider in Rice fields are used for this purpose. The traditional healers of this region are not aware of this unique use. As Homoeopath, I am aware that the drug *Ignatia amara* works well in case of mental shock and grief. The Rice farmers of this region use the leaves of Salparni (*Desmodium* sp.) for this purpose. The leaves are boiled in water and decoction is prepared. The patients are advised by them to take this decoction internally in small doses. According to them, this simple but promising treatment cures the trouble effectively in very less time. This was new information for me. Later, I tried this decoction and found it very effective. Semi is a well known vegetable crop in this part of Chhattisgarh. The Rice farmers prepare a special herbal oil by boiling its leaves in base oil. When all watery contents evaporate, the boiling is stopped and oil is stored for future use. This oil is considered as a boon for the patients having the problem of Alopecia. Its leaves of Semi collected from crop fields under chemical farming are not preferred. According to the Rice farmers, the leaves must be chemical free. You will be surprised to know that many senior Rice farmers use this special herbal oil in treatment of Carbuncle. The oil is applied externally on Carbuncle in order to increase the healing process. I have mentioned in previous articles that the natives of Chhattisgarh prepare Vinegar (Sirka) by using Chirai Jam (*Syzygium cumini*) fruits. The Rice farmers of Dondi-Lohara region consider this Vinegar useful in treatment of spleen related troubles. Many farmers use the leaves of Sadasuhagi (*Vinca rosea*) in treatment of Ascites (Jalodari). The leaves are dipped in water overnight and next morning the leachate is taken internally empty stomach. It is used as supplement treatment to main treatment.

Many of the above mentioned traditional medicinal uses are new for me and also for the traditional healers of Dondi-Lohara region. It is a matter of appreciation that they have not only deep faith in traditional medicinal knowledge but also they are using this knowledge in their routine life.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 176. Masoor Ke Bhaji.

According to the reference literatures, Masoor (*Lens esculenta*) is a partially twining herb, native to S.W. Asia and undercultivation as pulse crop. Masoor is well known herb in Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. They use its different plant parts in treatment of many common diseases both internally as well as externally. Its seeds are used more commonly. Its curry (Bhaji) is prepared by using the leaves. It is less popular among the natives. They consume it for taste. The traditional healers of Chhattisgarh are aware of its health benefits. This preparation is considered as a boon for the patients having the problem of constipation. Many healers consider it as promising blood purifier.

Material Required: Masoor leaves, Hardi (Turmeric), Lason (Garlic), Tel (Oil), Namak (Salt) and Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. Masoor leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Masoor please read my previous article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 133. Bukhar Jadi (*Lepidagathis cristata*, family *Acanthaceae*)

For the first time I got information about this herb from the traditional healers of Gandai-Salewara region. Like Kalmegh and Bara Chirayata, they use this herb in treatment of fever particularly in treatment of Malarial fever. The decoction of leaves is used internally for this purpose. Its utility in treatment of fever has given it the name Bukhar Jadi (Bukhar means fever locally). The traditional healers of Gandai-Salewara region prefer the use of Kalmegh (*Andrographis paniculata*). They informed that in many cases the patients refuse to take Kalmegh decoction. In such case, they use Bukhar Jadi. I have observed during the ethnobotanical surveys that many herb vendors sell this herb and its parts in the name of Bukhar Jadi. The traditional healers of Bagbahera region are not much aware of this herb. Very few healers recognized it through coloured photographs and told that this herb can be used in treatment of Asthma but as other promising alternatives are available they use it less frequently. In reference literatures, the use of this herb in treatment of itchy affections of skin has been mentioned. The traditional healers of Chhattisgarh Plains are aware of this use. In many parts of Chhattisgarh, the cattle owners use the decoction of this herb to wash the cattle in rainy season in order to keep it free from flies. The above mentioned traditional medicinal uses of this herb have yet not been reported in reference literatures.

Officially, the name of Bukhar jadi is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders have confirmed this information. As the traditional healers of Chhattisgarh are not only aware of its medicinal uses but also they are using it successfully, I personally feel that there is a need to popularize the use of Bukhar jadi and to search its potential market, so that this wasteland herb can be utilized to generate some additional income for the state.

Through the on-going ethnobotanical surveys I am trying my best to gather more information on different aspects of this herb. You will find the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice farmers of Dhamtari region.**

Dhamtari region is well known for its rice fields and production. Through the interactions with the Rice farmers of Dhamtari region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Dhamtari region informed me about many uses of Dhania (Coriander) herb. They use it popularly in treatment of patients having the problem of insanity and mental tension. They suggest them to increase the uptake of this herb in any form to make the brain cool and to remove extra heat. Dhania is under cultivation in this part of Chhattisgarh. The Rice farmers use Bhang (Cannabis sativa) as medicine. It is roasted well and in combination with Shahad (Honey) taken internally. It is considered as promising appetizer. By roasting the fruit pulp of Bhata (Solanum melongena), the Rice farmers prepare a special dish. This dish is known as Bharta. The Rice farmers informed that this dish is specially recommended to the patients having liver related troubles. The traditional healers of Dhamtari region are aware of this use and they confirmed its promising effects in treatment of liver related troubles. In general, the natives of all age group consume this preparation with taste. Bhata is a popular vegetable crop in this region. Like Bhang, the Rice farmers of this region, also use the dry fruits of Desi (indigenous) Boir (Ziziphus sp.), in powder form, as appetizer. This powder is considered as promising blood purifier also. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use medicinal mite Trombidium in treatment of common diseases. From the Rice farmers of Dhamtari region I got an additional information. They informed that the internal use of female mite is beneficial for the respiratory system and it is a boon for the patients having the problem of Asthma. As these rain insects appear on ground for few weeks,

the farmers never miss to utilize it for this purpose. They claim that its use upto few weeks develops enough resistance to prevent the attack of Asthma upto long time. The use of dead mites round the year is not recommended. According to the Rice farmers, the nature of Trombidium is hot. They are aware of its bulk collection and trade, but as the monsoon rains start and these mites appear on ground, they start commercial cultivation of Rice crop. Due to this reason, they loose the chance of earning from these medicinal mites. The senior Rice farmers informed that the internal use of matured fruits of Jam (*Psidium guajava*) helps in increasing the flow of milk in lactating women and as home remedy they are using it since generations. Like Desi Boir, they prefer the local varieties of Jam for use. In treatment of Hysteria, a common trouble in women, the Rice farmers use Binaula (Cotton seeds) internally. The seeds are crushed into powder and with water given internally as treatment. It is considered as one of the promising treatments.

The rice farmers complained that due to overuse of chemical inputs now many Rice insects have developed resistance to certain agrochemicals. This is the reason now they are showing interest in organic farming. Also now they are giving emphasis of quality rather than quantity. This is good sign. When I informed them about medicinal rice varieties, many senior Rice farmers replied that in early days many such varieties are under cultivation. They showed interest in farming of medicinal rice varieties. I instructed them to search and collect the seeds from the senior farmers and traditional healers and assured them to guide in cultivation and marketing of medicinal rice.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 132.
Machharia Van (*Stemodia viscosa*, family Scrophulariaceae).

Due to its viscous leaves, this herb is known as Machharia (means Fish) Van. Another herb named Machharia Bhaji has also named on the basis of viscous leaf but its scientific name is *Corchorus* sp. Machharia Van is a common herb in Chhattisgarh. The traditional healers and herb collectors are aware of its natural occurrence and they claim that this herb is present in almost all part of Chhattisgarh particularly near to the aquatic bodies. Due to its viscous leaves, they add its leaves in different herbal combinations used in form of globules and Laddus. The stickiness of leaves helps as binding material. The traditional healers of Chhattisgarh Plains consider it useful in treatment of Bavasir (Piles). It is used both internally as well as externally. Internally it is taken in combination with other herbs particularly with the roots of Kukronda (*Blumea lacera*) whereas externally the leaves are applied directly on piles. According to the healers both internal as well as external use cures the trouble effectively in very less time. The traditional healers of Southern Chhattisgarh use the decoction of leaves to wash the hairs in order to make it dandruff and lice free. The decoction is used after dilution with normal water. In reference literatures, its use as Demulcent is reported. The above mentioned traditional medicinal uses collected through the Ethnobotanical surveys have yet not been reported in reference literatures.

Officially the name of Machharia Van is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb collectors and traders have confirmed this information. The herb vendors collect it from forest for the traditional healers.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Rice farmers of Ambikapur region.**

Through the interactions with the Rice farmers of Ambikapur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Different species of *Cyperus* occurs as problematic weed in this part of Chhattisgarh. These species are known as Motha locally. The Rice farmers have discovered many promising uses of Motha. Many species are collected in bulk from wild and sold to the local shop owners and herb traders. They have rich traditional medicinal knowledge about Motha. They informed that after completing the field work to get refreshed, they take special bath using Motha decoction. The Motha nuts are boiled in water and decoction is prepared. The body is washed thoroughly with the help of this decoction. After complete drying, the body is further washed with normal water. This bath gives special freshness to the body and eliminates the odour of sweat. Karela is well known vegetable crop in this part of Chhattisgarh. The Rice farmers consider its fruits useful in treatment of Intestinal worms. The fruits are consumed in form of curry. According to them, the use of curry flushes out the worms effectively in less time. Like Karela, Kundru (*Coccinia indica*) is also a popular vegetable crop. Its fruits are also used as curry. The Rice farmers consider this curry as promising blood purifier. The patients having skin related troubles are advised by them to include this curry in diet. Kaitha is well known medicinal tree in Ambikapur region. Its scientific name is *Limonia acidissima* (Syn. *Feronia elephantum*). In case of rat bite, the Rice farmers of Ambikapur region use the seed oil of Kaitha. The oil is applied on affected parts. Oil is not extracted by crushing the seeds. To prepare the oil, Kaitha seeds are boiled in base oil and when all watery contents evaporate boiling is stopped and oil is stored for future use. As base oil Til (Sesame seed) oil is used. As rat bite is not a common problem and they are not aware of other uses of this seed oil, the Rice farmers purchase it from herb vendors or traditional healers in case of requirement. Many senior farmers informed that its seeds can be used in treatment of Erysipelas. In treatment of Tonsillitis and other throat related troubles the Rice farmers use the decoction of Kaitha leaves in form of decoction. They also use the fresh leaf juice in combination with other herb juice in treatment of eye related troubles. The traditional healers of Ambikapur region are aware of many of these traditional uses. They confirmed its promising effects and showed surprise by knowing the in depth knowledge, the Rice farmers are having. Kaitha is a favorite fruit of Elephant. In many parts of Ambikapur, wild Elephants cause nuisance every year like Kaitha, the Rice farmers are aware of many promising uses of Khirni (*Manilkara hexandra*). They use its seeds in powder form. Its seeds are considered as a boon for the patients having the problem of Motiabind (Cataract). They use the root bark of this herb as aphrodisiac. The roots are collected and barks are removed. The barks are dried in shade and converted into powder. A teaspoonful bark powder is taken twice a day with a glassful of lukewarm milk. In general, the Rice farmers, take this powder upto one month in any part of the year in order to maintain good sexual health round the year.

During interactions many farmers asked in detail about the importance on ongoing documentation work. Many of them said that they have secret formulations but to avoid its misuse, they are not disclosing it to any one. I told them that if this knowledge is safe with you and it will be transferred to next generation without any problem, then please keep with you and serve the patients, sincerely.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 131. Dudhali (*Sopubia delfinifolia*, family Scrophulariaceae).

During visits to natural forests when the herb collectors get injuries, they use many herbs and herbal combinations in treatment. Dudhali is among these herbs. The juice of whole herb is used as styptic. The traditional healers of Chhattisgarh use the decoction of whole herb alone or in combination with other herbs to dress the wounds. According to them, this decoction helps in increasing the healing process. They claim that in complicated cases, they use it as last option and in most of the cases they get encouraging results. Its diluted decoction is used by the traditional healers of Bagbahera region in treatment of stomatitis. The patients are advised to gargle with this decoction. But as other alternatives are available this herb is used less commonly. In reference literatures its use in treatment of sores on feet due to moisture is mentioned. This trouble is common in farm workers who invest much time in submerged paddy fields. Dudhali grows as common herb in natural forests and wasteland of Chhattisgarh. The herb collectors informed that it is present in almost all parts of Chhattisgarh. The common natives are not much aware of its medicinal properties and uses. Dudhali is not its local name. It is its Hindi name mentioned in reference literatures.

Officially, the name of Dudhali is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb collectors and traders confirmed this information. The above mentioned traditional medicinal uses of Dudhali have yet not been reported in reference literatures.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Saraipali region.

Through the interactions with the Rice farmers of Saraipali region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Saraipali region are aware of many medicinal uses of useful herb Bhagrenda (*Jatropha curcas*). They use its seeds in treatment of spleen related troubles. The seeds are crushed into powder and with the help of water, an aqueous paste is prepared. This paste is applied externally around the umbilicus as treatment. It is considered as one of the promising treatments. Bhagrenda grows as wasteland herb in this part of Chhattisgarh. Many Rice farmers informed that the roots of Semar (*Bombax ceiba*) can be used as promising blood

purifier and in treatment of Safed Daag (Leucoderma). The roots of Semar are known as Semar Musli in trade. I have mentioned in previous articles that Semar Musli is considered as important as other Musli (i.e. Chlorophytum, Curculigo). It is popularly known for its aphrodisiac properties. Its use as blood purifier and as medicine to treat Leucoderma, internally were new information for me. Semar is common tree in this part of Chhattisgarh. In treatment of injuries, Rice farmers use the combination of Dhikuar (Aloe vera pulp) Guda in combination with Ama Haldi (Curcuma amada). By mixing both herb parts, paste is prepared. This paste is applied externally on painful parts. According to them this combination cures the trouble effectively in very less time. The traditional healers of Saraipali region are also aware of this combination. They confirmed its miraculous effect. The Rice farmers particularly the senior Rice farmers informed that few decades back many medicinal rice varieties were under cultivation in this part. With the help of farmers I have prepared a long list of these medicinal rice varieties. Many of them informed that in early days they were using the medicinal rice variety Karhani in face care. Its grains are specially good for face. Its application not only improves the complexion but also removes black spots. Due to non-availability of this variety now a days, this use is becoming a thing of past. The Rice farmers of Saraipali region are aware of both species of Chaulai i.e. Amaranthus viridis and Amaranthus spinosus. A. viridis is under cultivation as vegetable crop whether as A. spinosus occurs as wasteland weed. Chaulai is known as Kanta Bhaji locally. The Rice farmers informed that the internal use of A. viridis helps in removing extra heat from human body. They specially recommend it to the patients having skin related troubles to consume it. Its consumption in winter season is not preferred. Parsa is well known medicinal tree in Saraipali region. As medicine, the Rice farmers consider the white flowered Parsa more promising. Many senior Rice farmers informed that in early days many traditional healers were recommending the patients having Pelea (Jaundice) to wear the cloth coloured with Parsa flowers as treatment. Unfortunately this unique use is not in existence these days. The Rice farmers use the leaf juice of Van Tulsa (Ocimum basilicum) in treatment of decayed teeth in unique way. The juice is applied into the ears as treatment. I am searching the scientific explanation that how the application of juice inside the ears cures the problem of decayed teeth. Van Tulsa grows as wasteland weed in rainy season.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am thankful to the mother nature for giving me opportunity to document this unique knowledge.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India 175. Hadjod Ke Bhajia.

Hadjod (*Cissus quadrangularis*) is well known medicinal herb in Chhattisgarh. The traditional healers specialized in treatment of fractured bone (i.e. bone setters) frequently use this herb both internally as well externally in treatment. Since few years, the Chhattisgarh farmers have started its commercial cultivation. The dense forests of Chhattisgarh are rich in natural population of Hadjod. Hadjod Ke Bhajia is prepared and consumed for medicinal purpose. Although the natives of forest region consume it for taste but the traditional healers are aware of its health benefits. This preparation is specially recommended for the patients having the problem of Gout. The healers use this herbal dish as supplement treatment to main treatment.

Material Required: Hadjod fleshy stem, Urd Dal (Black Gram pulse), Namak (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: A thin layer present on stem is peeled off. Urd Dal is dipped in water for atleast eight hours. The fleshy stem and Urd Dal are mixed in equal proportion and crushed into thick paste with the help of stone. All spices and Namak are added in paste and the paste is given the shape of numerous round globules. Oil is taken in pan and pan is kept on fire. The round globules are fried well in oil and served hot as breakfast to the patients. As cooking oil, Til (Sesame seed) oil is preferred.

For the botany, traditional and reported medicinal uses of Hadjod please read my previous articles.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 130.
Kancharia Bhaji (*Alternanthera sessilis*, family *Amaranthaceae*).

In reference literatures on weed science, *Alternanthera* is mentioned as common weed. In India, our researchers invest thousands of Rupees, in search of Agrochemicals to manage this weed. Every year the farmers are dumping these Agrochemicals to manage the weed but the war between them, are still in good progress. In Chhattisgarh, *Alternanthera* grows as waste plant in crop fields and wastelands but the natives and traditional healers use it as medicinal weed. You will be surprised to know that this herb is in trade from many parts of Chhattisgarh as medicinal herb. The recommendations of experts are with the farmers but they are not ready to use weedicides. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh. I have collected few but important information on traditional medicinal uses of this herb. According to the reference literatures, in many states of India, this herb is under cultivation as vegetable crop. This is really depressing that one place this is used as medicine, in other place the natives are using it as vegetable and at the same time our researchers are investing time, money and effort to destroy it. The traditional healers of Chhattisgarh recommend this herb in form of curry in treatment of troubles related to digestive system. It is considered as a boon for the patients having the problem of chronic constipation. The traditional healers of southern Chhattisgarh prepare a decoction by boiling the whole herb in water. The patients having Bavasir (Piles) are advised by them to sit in the tub filled with decoction. It is considered beneficial for the patients having bleeding pile. This use stops the bleeding effectively in less time. In combination with other herbs, the traditional healers of Ambikapur region use it in treatment of Leucorrhoea. Its popularity among them clearly indicates its efficacy.

Officially, the name of Kancharia Bhaji is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets but as mentioned earlier from many parts it is in trade as medicinal herb. Its whole plant in dry form is in trade. Through the on-going ethnobotanical surveys I am trying my best to gather more information on different aspects of this herb. You will find more details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Rice farmers of Mungeli region.

Through the interactions with the Rice farmers of Mungeli region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

I have mentioned in previous articles that in Mungeli region Karaya (*Nigella sativa*) is under cultivation as rabi (winter) season crop and the natives have in depth traditional medicinal knowledge about this herb. During interaction, Rice farmers of this region informed that they use the seeds of Karaya in treatment of chest pain. Seeds are roasted and crushed into powder. This powder is taken internally with Shahad (Honey) as treatment. You will be surprised to know that many Rice farmers of this region use Gobraila (Dung beetle) internally in treatment of Jalodari (Ascites). The use is very simple. The insects are crushed and juice is extracted. This juice is taken internally. They use the Dung beetles feeding on cattle dung. Later, when I asked the traditional healers of Mungeli region about this unique use, they replied that in place of Dung beetle, dung as such can be used after purification but the internal use of dung causes many harmful effects. Surprisingly, the juice of Dung beetle eliminates these harmful effects and this is the reason the Dung beetles are used. In general, the farmers do not disclose the origin of extract to the patients. Its popularity among them clearly indicates its efficacy. In previous articles I have mentioned traditional medicinal uses of Dung beetle in treatment of many troubles externally but the information on its internal use is really fantastic information. I am feeling proud to document this important traditional medicinal knowledge. Phul Gobhi (*Brassica oleracea* var. *botrytis*) is well known vegetable crop in Chhattisgarh. The Rice farmers of Mungeli region are aware of its many medicinal uses. They use its leaves as medicine. They use the juice of fresh leaves in treatment of Haemoptysis. The juice is taken internally. The use is continued till complete cure. They prepare a decoction by boiling its leaves in water. This decoction is considered as a boon for the patients having the problem of Gout. The decoction is taken internally, many times a day. Many farmers use the leaves externally also. During the preparation of decoction, the patients are advised to expose the painful parts in fumes. According to them, both internal as well as external use cures the troubles effectively in very

less time. In Chhattisgarh, the farmers use heavy doses of Agrochemicals for the commercial cultivation of this crop. The use of leaves collected from the crop fields is not considered safe. They use the leaves of organically grown Phul Gobhi herb. Gahunsa (*Phalaris minor*) is considered as one of the problematic weeds of wheat crop. I have mentioned in previous articles that the natives and healers of many regions use this so called weed as medicinal herb. The Rice farmers of Mungeli region are also aware of these uses. They use the whole herb of Gahunsa in treatment of skin related troubles. The whole herb is crushed and an aqueous paste is prepared. This paste is applied externally on affected parts. It is considered very useful in case of dry itch. The herb collected at vegetable stage is considered best for the use as medicine. In India, the wheat growers particularly in Northern India, invest much money to manage this weed in crop fields and dump lethal agrochemicals in crop fields. The positive approach of Rice farmers can be a good lesson for these wheat growers. The Rice farmers of Mungeli region use the whole herb of Makoi (*Solanum nigrum*) in treatment of liver related troubles particularly in treatment of enlarged spleen. The whole herb is used in dry form, in combination with other herbs. Makoi grows as wasteland and crop weed in Chhattisgarh. They use another weed Gorakhmundi (*Sphaeranthus indicus*) as blood purifier. The aqueous extract of whole herb is taken internally for this purpose. Many farmers use the decoction of whole herb as blood purifier. They further informed that the local shop owners and herb traders purchase this weed. From them and in this way, they earn good income from these waste plants.

The above mentioned traditional medicinal uses particularly the internal use of Gobraila (Dung beetle), are unique. This is a matter of appreciation that the farmers have conserved the traditional knowledge with great faith.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 129. Limau Motha (*Scleria pergacilis*, family Cyperaceae).

Limau Motha is Lemon (Limau locally) scented Motha (Nutsedge, Cyperus) of Chhattisgarh. In general, when I request the herb collectors to bring Lemon grass (*Cymbopogon* sp.) from natural forests, many times they bring this perennial herb. According to the herb collectors and traditional healers, the natural forests of Chhattisgarh are rich in this herb. From the smell of its leaves it is very difficult to differentiate it from Lemon grass leaves. The traditional healers are aware of its few but important traditional medicinal uses. They use it specifically in treatment of Mirgi (Epilepsy). The herb possess aromatic oil. When it is burnt the fumes helps the patients to get rid from acute attack. The patients are also advised by the healers to inhale the fumes in normal days. In reference literatures, the use of Limau Motha in treatment of stomach disorder is reported, but unfortunately our healers are not much aware of this use. Due to its aroma, many natives use the dry herb to repel away the flies in rainy season. Although this is a common herb in Chhattisgarh but surprisingly no work has been done to evaluate its potential and possible uses. I see it as very important herb. Through the on-going ethnobotanical surveys I am trying my best to collect more information on different aspects of this unutilized herb. In Allelopathic studies, I have found this herb with strong Allelochemicals. Its aqueous leachate and extracts promoted the growth of many medicinal herbs in laboratory conditions. There is a tremendous scope of utilizing this herb for ecofriendly pest management.

Officially, the name of this herb is not present in the list of medicinal herbs having any demand in national markets but many herb collectors informed that on specific demand they collect this herb. They are not aware of its end use.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Rajnandgaon region.

Through the interactions with the Rice farmers of Rajnandgaon region I have collected many valuable information on traditional medicinal uses of common weeds and forests herbs. I am giving the details in present article.

The Rice farmers of Rajnandgaon region use the fleshy stem of Hadjod (*Cissus quadrangularis*) to prepare a special herbal oil. To prepare the oil its fleshy stem is boiled in base oil and when all watery contents evaporate, boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) oil is used. This specially prepared herbal oil is considered very promising for hair growth. Its regular use not only cures the troubles of hair falling but also promotes the growth of new hairs. The traditional healers of Rajnandgaon region are also aware of this oil. They add more herbs in this herbal oil to make it more promising. They also suggest the internal use of Hadjod in form of herbal dishes for the same purpose. The Rice farmers were not aware of its internal use. When I informed them about the healer's suggestion, they thanked me and assured to use the herb both internally as well as externally. I have observed that many farmers have started the commercial cultivation of Hadjod as medicinal crop. They are using the fence of their fields to support the growth of this climber. I have mentioned in previous articles that the natives and traditional healers of many regions of Chhattisgarh use the seeds of Bathua (*Chenopodium album*) in treatment of intestinal worms. The Rice farmers consider these seeds aphrodisiac in small amount. The seeds are roasted and converted into powder. This powder is taken internally upto specific time. According to them, it is a boon for the patients having the problem of premature ejaculation. This was new information for me. Bathua grows as winter season weed in Chhattisgarh. To flush out the intestinal worms, the Rice farmers use many herbs and herbal combinations. The use of Nirgundi (*Vitex negundo*) leaves is very popular among them. The leaves are taken internally in form of decoction. Many farmers use Baibirang (*Embelia ribes*) for same purpose. The natural forests of Rajnandgaon region are rich in natural population of both herbs. Many Rice farmers are aware of use of the seeds of Ambari (*Rumex vesicarius*) . The seeds are used internally in treatment of Dysmenorrhoea. Ambari is under cultivation as leafy vegetable crop in this part of Chhattisgarh. Gumma (*Leucas aspera*) grows as rainy season weed in crop fields. The Rice farmers consume the curry prepared from its leaves with taste. They informed that its seeds can be used to delay the ejaculation. The seeds are crushed and with the help of water an aqueous paste is prepared. This paste is applied externally on Pelvic region. This use is not much popular among them but from documentation point of view it is an important information. They use its seeds internally alone or in combination with other herbs in treatment of Intestinal worms. The traditional healers of Rajnandgaon region confirmed its promising effects. In case of injuries and swellings, the Rice farmers mix the fruit

pulp of Bhata (*Solanum melongena*) and Ama Haldi (*Curcuma amada*) and prepare an aqueous paste. This paste is applied on affected parts. This application not only reduces the intense pain but also cures the trouble. Bhata is a popular vegetable crop in this region.

The Rice farmers showed interest in some unidentified herbs. I informed them about the information about these herbs collected from other regions. This is a matter of appreciation that they are taking keen interest in herbs present in their surroundings.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 125. Khatua (*Rhus parviflora*, family *Anacardiaceae*).

A well known Homoeopath Dr. E.A. Ferrington writes in his famous book 'A Clinical Material Medica' that *Rhus toxicodendron* or Poison ivy is a voluble Homoeopathic drug. You must remember it as complementary to *Bryonia*, a fact discovered by Hahnemann in his experience with an epidemic of war typhus during which he treated many cases, losing but two; the success then gained was acknowledged on all sides. Many lives have since been saved by the exhibition

of these two remedies in alternation. In Chhattisgarh, another species of *Rhus* i.e. *R. parviflora* is present in isolated patches and as Homoeopath I am eager to evaluate its medicinal potential as Homoeopathic drug. Although the preparation of Homoeopathic drug from *R. parviflora* has yet not been reported but I am confident that this new drug will be more effective. Khatua is not its local name. the natives of Chhattisgarh have yet not coined its local name. the reference literatures on flora do not support its natural occurrence in Chhattisgarh, but according to the traditional healers and herb collectors this herb is present in wild particularly in Pendra and Gandai-Salewara forest regions. According to reference literatures, Khatua is a shrub or small tree, found in the Himalayas, Madhya Pradesh and South India. Its fruits are edible whereas dried leaves are substituted for tobacco. This plant is used for afforestation. The traditional healers of Chhattisgarh are not much aware of traditional medicinal use of this herb. Its fruit is considered as promising in treatment of Bavasir (Piles). Overall it is good for digestive system, but the healers suggest the natives to consume the fruits in less quantity, as overdose may result in harmful effects. The traditional healers of Gandai-Salewara region use the bark in treatment of spleen related troubles. The bark is dipped in water overnight and next morning leachate is taken internally as treatment. The use is continued till complete cure. The decoction of bark is used in treatment of stomatitis. The patients are advised to gargle with this decoction. Its roots are considered toxic and this is the reason it is not used as medicine. My focus is on roots for Homoeopathic trials.

Officially, the name of Khatua is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The traditional healers and herb collectors also confirmed this information. Through the on-going ethnobotanical surveys, I am trying my best of gather more information on different aspects of this herb.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Rice Farmers of Bilaspur region.**

Through the interactions with the Rice farmers of Bilaspur region. I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In previous articles, I have written a lot on traditional medicinal uses and properties of Bhui Aonla (*Phyllanthus amarus*) in treatment of many common diseases specially in treatment of liver related troubles. The senior Rice farmers of Bilaspur region informed that in combination with other herbs mainly Chirchita (*Achyranthes aspera*), the whole herb of Bhui Aonla can be used successfully in treatment of Pthisis. Its long term use gives promising results. The traditional healers of Bilaspur region are also aware of this use but they told that this combination can be used as supplement to main treatment. The herb collectors of this region collect this valuable herb for trade but possibly they do not collect it from farmers field. This is the reason the farmers of Bilaspur region are not much aware of its demand in national market. I personally feel that by awaring these farmers about its demand and by providing marketing links to them, we can generate an additional income for them through this so called unwanted plant. In treatment of Lumbago, the Rice farmers of this region consider the seeds of Bariyara (*Sida acuta*) very promising. The roasted seeds are taken internally with Shahad (Honey). They are also aware of its aphrodisiac properties. Sida is well known medicinal weed in this parts of Chhattisgarh. Bathua (*Chenopodium album*) grows as winter season weed in Chhattisgarh. Its different dishes are popular among the natives. The Rice farmers of Bilaspur region use its leaf juice internally as treatment for hoarseness of voice. The use is continued till complete cure. Its popularity among them clearly indicates its effectiveness. Many farmers are aware that the herb collectors collect the seeds of Bathua from crop fields but unfortunately they do not give any price to the farmers. In treatment of dental troubles the Rice farmers use many common herbs and herbal combinations. They collect the bark of Vajradanti (*Barleria prionites*) and boil it in water. The patients are advised to gargle with this decoction. It is considered as one of the promising treatments. It is common belief among these farmers that internal use of Charota (*Cassia tora*) herb in any form in rainy season, flushes out all the toxic material from human body. They consume the curry prepared from leaves or boil the roasted seeds in water and drink it as indigenous coffee. Charota is well known wasteland herb in this part of Chhattisgarh. It is in trade from this region and many Rice farmers earn additional income from the valuable seeds and other plant parts. Many senior Rice farmers use the dry leaves of another common herb Pitt Papda (*Fumaria* sp.) as appetizer. It is also used in treatment of troubles related to digestive system. According to the traditional healers of Bilaspur region, in place of dry leaves, fresh leaf juice can also be used with same effectiveness.

During the ethnobotanical surveys, in this region I have observed that many Rice farmers are showing interest in crop diversification and they have started the cultivation of Bach (*Acorus calamus*) and Bramhi (*Bacopa monnieri*) in rice fields. I got opportunity to deliver a lecture among these Rice farmers, about the importance and potential of medicinal plant cultivation in Bilaspur region. The lecture was organized by a fertilizer company of Chhattisgarh, in Nagpur. I suggested them about the organic farming of herbs. Hopefully, they are cultivating it organically. I am planning to meet these farmers in near future in order to note their views and experiences with new crops.

Many of the above mentioned traditional medicinal uses of common weeds have yet not been reported in reference literatures. The great observation that the Rice farmers of Bilaspur region are not only aware of these uses but also they are using it in daily life.

Thank you very much for reading the article.

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The partially submerged hills in Dam areas in Chhattisgarh, India. : The promising spots for biodiversity study.

I have surveyed the Bagbahera region of Chhattisgarh extensively and got opportunities to interact with the senior traditional healers. These healers informed me about many valuable herbs that are not present in this region. According to them, due to habitat destruction and over-exploitation now we have lost these herbs. You will be surprised to know that many of these herbs were of great use in treatment of different types of cancer. On my request the traditional healers draw the sketches of these lost herbs. I visited this region very frequently and interacted with the traditional healers many nights. I also presented them the medicinal herbs collected from other regions as gift with details regarding its uses. Seeing my interest, one day few senior traditional healers told me that there is no need of sketches, if you wish, we can give clues of

these lost herbs. On next day, we started our journey in search on lost herbs. We visited to nearby Kodar dam and entered into the dense forests in surrounding area. Due to water storage, this area is rich in natural vegetation. Through forests we reached very near to water. From the end point, they showed me the big Islands in submerged areas and told that these Islands are the top of big hills, go there and you will find the lost herbs. This Dam was constructed few decades back and according to the healers, till that date, the herbs are growing as such in hill tops, far from human interference. We came back. Later, with the help of friends, I visited the place again and surveyed it. Without any boat it was not possible for us to reach those Islands. We took the services of fishermen and requested them to help us. They refused to go there. According to them, in those Islands many evil spirits and ghost live. After knowing the purpose of our visit, they informed me that the Islands are rich in natural bio-diversity and to protect it from the greedy human beings they have made the stories of evil spirits and Ghosts. We visited the Island, and found entirely different flora and fauna, to that present in the terrestrial part. After small visit in periphery, we came. I have seen many rare species of medicinal insects and snakes there. Tens of such Islands exist in Kodar Dam region. In Chhattisgarh, many such submerged areas and Islands exist. I got opportunity to visit many of such Islands with the traditional healers of Narharpur and Dhamtari region. I have observed the rich biodiversity in these Islands also. As you know, for documenting the traditional medicinal knowledge of other parts of Chhattisgarh, I am in search of one more life in Chhattisgarh, it is very difficult for me to invest a major part of this life, that is essential for complete surveys, in these Islands. This is the reason I am writing this article detailing the importance of these biodiversity rich Islands with the hope that the young researchers will come forward to start detailed study on this aspect without any delay. I have prepared a list of about 830 lost species with the traditional healers of Chhattisgarh, I am expecting the existence of atleast half number of species in these Islands. The stories of evil spirits and ghosts have protected these Islands but in long time, if the greedy human beings start entering these untouched lands, we will really loose all these herbs.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India 173. Ghia Taroi Ke Sag.

According to the reference literatures, Ghia Taroi is a climbing or trailing annual, native to Tropical Asia probably India. It is cultivated throughout the Country for its immature fruits which are used as vegetable. In Chhattisgarh, Ghia Taroi is well known vegetable. The natives consume it with taste in form of different Herbal dishes. The traditional healers of Chhattisgarh are aware of its many medicinal properties and uses. They recommend its curry (Sag) to their patients for specific purposes. The patients having any kind of internal bleeding are suggested by the traditional healers to include this curry in their diet. The natives who want to gain extra fat are also advised to increase the consumption of this curry. The traditional healers of Southern Chhattisgarh recommend the patient having Pelea (Jaundice) to take this curry as supplement treatment. In general, the patients are suggested to take care while using this herb as it digest very slowly and causes flatulence. Unfortunately, the natives are not much aware of these medicinal uses. The traditional healers prefer the organically grown Ghia Taroi as medicine. The natives of different parts of Chhattisgarh, use different methods to prepare the curry. In general, it is prepared by the standard method common with other curries, I am not giving the details.

For the botany, traditional and reported medicinal uses of Ghia Taroi, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 124. Tindharia (Laggera alata, family : Compositae).

According to the reference literatures, Tindharia is a stout, much branched, leafy perennial, found almost throughout India. Its tender leaves have odour of Black Currant and yield ethereal

oil. In Chhattisgarh, the natural forests are rich in this herb. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted few but important information on its traditional medicinal uses. The traditional healers of Chhattisgarh Plains use its leaves in treatment of Mirgi (Epilepsy). During the attack the patients are instructed to inhale the smell of fresh leaves. The healers collect the leaves and dry it in shade. After drying the leaves are burnt and patients are advised to inhale the fumes. The healers recommend this use in normal days also. According to them, the fumes are beneficial for the patients having the problem of excessive sleep. I have got chances to observe its practical uses many times. During its use, I have noted that the fumes act as insect repellent and the room having Tindharia leaves, repel away the flies particularly the housefly. This observation motivated me to evaluate its potential through systematic research. The experiments are in progress. I will give the details in coming articles. The traditional healers of Southern Chhattisgarh use the roots of Tindharia in treatment of skin troubles. The roots are burnt and ash is collected. The ash in combination with other herbs is converted into paste and applied externally on affected parts as treatment. In reference literatures, the use of its leaves as styptic is mentioned. Unfortunately, the traditional healers of Chhattisgarh are not aware of this use.

According to the reference literatures, botanically it is an annual erect herb; stems broadly winged (The name Tindharia is based on the structure of stem), clothed with viscous or glandular pubescence; Leaves sessile, oblong-lanceolate, dentate-glandular; Heads in racemose panicles; Ray florets filiform, toothed; Disc florets 5-toothed; Achenes cylindric, ribbed, hairy; Pappus white. It occurs as winter season herb in Chhattisgarh.

Officially, the name of Tindharia is not present in the list of medicinal herbs having any demand in Chhattisgarh. As other promising herbs and herbal combinations as alternative, are available, the traditional healers use this herb less frequently. From documentation point of view, the above mentioned traditional medicinal uses are of great importance.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice Farmers of Durg region.

Through the interactions with the Rice farmers of Durg region of Chhattisgarh Plains, I have collected many valuable information on traditional medicinal uses of common herbs. This region is well known for rice production. I am giving the details in present article.

The Rice farmers of this region are well aware of medicinal uses of common winter weed Bemchi (*Psoralea corylifolia*). They use it both internally as well as externally in treatment of many common diseases. They informed that many small herb traders purchase the dry seeds from them. By selling its seeds, they recover the cost of manual weeding. They further informed that not much farmers are aware of this collection. In fact, the traders do not want to disclose that this herb is of great medicinal value and about its demand in national markets. Many farmers use its internally in powder form. According to them, its internal use purifies the blood. It is considered as promising hair tonic also. Unfortunately, they are not aware of its use in treatment of Safed Daag (*Leucoderma*). In treatment of *Leucoderma* they use Bramhadandi (*Tricholepis glaberrima*). It is used both internally as well as externally. In general, they approach to the traditional healers in treatment of *Leucoderma*, when the common herbs fails to cure the trouble at initial stages. Like Bemchi and Bramhadandi, Bathua is also a well known medicinal weed for these farmers. Many senior Rice farmers informed me that the internal use of Bathua leaf juice is very useful in treatment of Pathri (Renal Calculi). I have mentioned in previous articles that in Chhattisgarh its seeds are used in treatment of intestinal worms. Also, Bathua based herbal dishes are popular among them. The use of Bathua leaf juice in treatment of Pathri was new information for me. When I asked that whether they sell the seeds of Bathua, like Bemchi seeds, they replied that there is no demand of Bathua seeds. They collect the newly emerged Bathua herbs and sell it in markets of nearby town. By this way they earn from this medicinal weed. Besides the use of Bhengra (*Eclipta alba*), a common weed in Rice fields, for hair care, the Rice farmers use the juice of fresh leaves as eye tonic. It is considered as a boon for the small children having poor eye sight. In treatment of Stomatitis, the Rice farmers use the newly emerged leaves of Doobi (*Cynodon dactylon*). The leaves are boiled in water and decoction is prepared. The patients are advised to gargle with this decoction. Although the reference literatures claim that Doobi is one of the ten worst weeds of the world but for the Rice farmers it is useful medicinal herb. It is also a good fodder for their cattle. Many senior farmers

informed that in treatment of skin troubles they were using the latex (Doodh) of common weed Duddhi (*Euphorbia hirta*) externally but now a days the farmers prefer the use of Charota (*Cassia tora*) seeds for the same purpose. In many case the latex causes irritation in skin. There is no such problem with Charota seeds. Duddhi and Charota are also common weeds in this parts of Chhattisgarh. The Rice farmers are aware that judicious use of Thura Latex (Doodh) is good blood purifier. The overdose acts as strong purgative. The scientific name of Thura is *Euphorbia neriifolia*. Many farmers have planted this herb in periphery of their fields as live fence.

As Durg region is not much rich in natural forests and I have interacted with the Rice farmers of semi-urban areas, I got information on medicinal uses of common weeds. In areas near to natural forests, the farmers give more information regarding forest herbs than the field weeds. The traditional uses described by the Rice farmers of Durg region are of equal importance. I am feeling proud to document this knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 123. Kukua lata (*Thunbergia alata*, family Thunbergiaceae).

According to the reference literatures, Kukua lata is a herbaceous twinner, native to tropical Africa and is now naturalized in Assam, Bengal and Western Ghats. It is grown as an ornamental herb and is well-suited for rockeries and small trellises. In Chhattisgarh, this herb grows as wasteland herb. According to the traditional healers and herb collectors this herb has entered in wild few decades back. Hence, they are not much aware of its medicinal uses and properties. Kukua lata is its Hindi name. Locally the natives have kept it in the category of Bela or Nar (i.e. Climbers). They have still not coined its local name. It is also mentioned in reference

literatures that its leaves are used in form of poultice in treatment of headache. The traditional healers of Gandai-Salewara region are aware of its few but important medicinal uses. The healers of senior generation claim that they have searched the medicinal uses of this newly introduced herb through their own way of experimentation. They use its roots in form of decoction in treatment of many common diseases. The decoction is mainly used to wash the cancerous wounds. Many healers prefer its use in combination with other herbs. They take special precaution during the collection of roots. The tree growing near the water logged soil is not considered suitable for the collection of roots. Very old roots are not considered useful. In complicated cases of Ringworm, they burn the whole herb and collect the ash. This ash is mixed with Limau (Lemon juice) and applied externally on affected parts. It is considered as one of the promising treatments. The healers of this region were not aware of its use in treatment of headache, as mentioned in reference literatures. When I informed them, they tried it and found it very effective.

Officially, the name of this herb is not present in the list of medicinal herbs having any demand in national markets. The herb collectors and herb traders have confirmed this observation. The above mentioned traditional medicinal uses of this herb have yet not been reported in reference literatures. As the experiments of the healers are still on and they have showed interest in informing about the results, I will write more about this herb in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Bagbahera region.

As you know, Chhattisgarh is the Rice bowl of India. In early days many medicinal rice varieties were under cultivation in Chhattisgarh. During the Ethnobotanical surveys conducted in different

parts of Chhattisgarh I have observed that like the natives, traditional healers, herb collectors, vendors and traders of Chhattisgarh, the Rice farmers of the state also have in depth traditional medicinal knowledge about common herbs present as weed in the crop fields and as other herbs in their surrounding. From this article, I am starting a new series focused on the interactions with the Rice farmers of different regions of Chhattisgarh. These articles are the results of Ethnobotanical surveys in progress since year 1994.

I have mentioned in previous articles that the Rice farmers of Bagbahera region are not only aware of medicinal weeds but they are earning (although little) from these so called waste plants. During surveys I have noted that they are also using the medicinal weeds in treatment of common diseases. In this way, the weeds are saving the expenses of medicinal treatments. Through the interactions with these farmers, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details.

Like other parts of Chhattisgarh, Bhatkatiya (*Solanum xanthocarpum*) is also a common wasteland herb in Bagbahera region. The Rice farmers use its root, collected at morning times, as aphrodisiac. The roots are dried in shade and after drying converted into powder. This root powder is taken internally with lukewarm milk at night. In general, the Rice farmers take this powder upto fifteen days (i.e. fifteen doses) in any part of the year, preferably in winter season, in order to maintain good sexual health round the year. They informed that the use of root powder increases the retention time. They recommend its use specially to newly wed couples. Many of them believe that the white flowered Bhatkatiya possess more valuable properties but as it is not available easily, they use the commonly available species. They are aware of different curries prepared from Bhatkatiya and its health benefits. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the leaves of another weed Dhatura (*Datura* sp.) as smoke in order to treat the respiratory troubles specially in treatment of Asthma. The Rice farmers of Bagbahera prefer young shoot of Dhatura for this purpose. The shoots are burnt and used in same manner. They are aware of use of Dhatura leaves but according to them the concentrated smoke of leaves sometimes causes dizziness and suffocation. To avoid this they use its young shoots. This was new information for me. Many Rice farmers, sell different parts of Dhatura to the local traders in exchange of food grains. They use this herb in their religious ceremonies also. Muscaini (*Ipomoea reniformis*) is a well known weed of rainy season. The Rice farmers consume this weed as curry. They informed that this curry is very useful in treatment of troubles related to urinary system. They also use the leaf juice of this herb internally for the same purpose. The second way of use is considered more promising. In treatment of troubles related to urinary system they also use the decoction of whole herb of Jwasa (*Alhagi camelorum*). Many senior farmers informed that it is a boon for the patients having the problem of Sujak (Gonorrhoea). In case of Gonorrhoea, they collect this

herb from fields and wastelands and give it to the traditional healers. The traditional healers prepare a herbal combination for them through standard method. The farmers never miss to gift other medicinal weeds and mushrooms to the healers as fees. Many Rice farmers informed me that Jwasa is having the capacity to nullify the harmful effects of all types of poison inside the body. This is the reason, after complete treatment of snake bite, they suggest the patients to take this herb upto specific time to clean the body completely. Although Jal Kumbhi (Water Hyacinth) is not a native to India but the Rice farmers of Bagbahera region have discovered its many uses. They informed that the external use of its leaves helps in increasing the wound healing process. They use its fresh as well as burnt leaves for this purpose.

The in depth traditional medicinal knowledge about common herbs, the Rice farmers of this region are having, is a matter of appreciation. You will find many interesting information in the articles of this series.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 122. Sukhan Jadi (*Lindernia crustacea*, family *Scrophulariaceae*).

Although the weed scientists of Chhattisgarh have kept this herb in the category of 'other weeds' due to poor identification but I have seen this herb growing in wastelands and crop fields near to moist spots. Many farmers informed me that the presence of this herb in crop fields results in loss of soil moisture at a very fast rate. This is the reason they uproot it without any delay. The

traditional healers aware of its unique property use this herb in treatment of troubles in which unnecessary accumulation of fluid occurs in any specific part. This herb is used both internally as well as externally. In reference literatures, this property and use of Sukhan Tadi has not been reported. According to these literatures, the whole herb is used as practice in treatment of boils, sores, ringworm and itches. The traditional healers of Chhattisgarh are aware of this use but they prefer to manage these common troubles with the help of other herbs effectively. During the Ethnobotanical surveys I have noted that the traditional healers of Southern Chhattisgarh use the whole herb in combination with other herbs in treatment of Filaria. Many traditional healers of Nagri-Sihawa region specialized in treatment of different types of fever use the roots of Sukhan Jadi in treatment of common fever. The decoction of root is taken internally many times a day. They informed that the decoction also acts as promising blood purifier.

Officially, the name of Sukhan Jadi is not present in list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors of the state confirmed it. The popularity of this herb among the few traditional healers of Chhattisgarh, indicates that there is a need to popularize the unique observation of the farmers and healers among other natives, so that this common weed can be established as potential medicinal herb in the state.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the female herb collectors of Keshkal region.

As you know, Keshkal region is rich in natural vegetation. Many rare medicinal herbs have been reported from this region. This is the reason, herb collection and trading are main business for the natives of this region. Through the interaction with the female herb collectors of Keshkal

region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Keshkal region are aware of many uses of Bijaura (*Citrus medica*). They informed that although its seeds are difficult to digest but seeds are a boon for the women having sterility problem. The dry seeds in powder form are given internally with Shahad (Honey) as treatment. The female herb collectors further informed that the internal use of Bijaura seeds have many other health benefits. It is good for Bavasir (Piles). It acts as general body tonic. In general, they suggest the patients taking the seeds internally in any form to do much physical exertion in order to digest the seeds properly. As tonic, the female herb collectors also use the newly matured pods of Chana (Chickpea) in combination with Shahad. Chana is a popular winter crop in Chhattisgarh. The natives aware of this combination never miss to consume it as delicious body tonic. The traditional healers of this region are also aware of this tonic. They confirmed its promising effects. Like the natives and traditional healers of other parts of Chhattisgarh, the female herb collectors of Keshkal region are also aware of wooden bowl prepared from Jhau (*Tamarix aphylla*) and its use in treatment of spleen related troubles. They use the leaves of Jhau in form of decoction in treatment of blood related troubles. It is considered as promising blood purifier. They use the decoction upto specific time in normal days in order to get protection round the year from such troubles. Many herb collectors informed that the seeds of Kalinder (Water melon) can be used successfully in treatment of Pathri (Renal Calculi). The seeds are roasted and converted into powder. This powder is taken internally alone in normal cases and in combination with other herbs in complicated cases, as treatment. According to them, within few days this simple treatment flushes out the stones effectively. Many senior herb collectors informed that the Surma prepared from Hanthi Dant (Ivory) is of great use in treatment of eye related troubles but now a days due to non-availability of genuine Hanthi Dant, its use is becoming a thing of past. They also informed that the seeds of Bajra (Pearlmillet) can be used in combination with Shahad (Honey) in treatment of internal swelling due to cold. Bajra is under cultivation as field crop in many parts of Chhattisgarh. Like other parts of the state, Bhengra (*Eclipta alba*) is well known herb in this region. The female herb collectors use it in treatment of Felon successfully. Eclipta leaves are used in combination with Dahi (Curd). In form of aqueous paste, this combination is applied externally on Felon till complete cure. As you know, Felon is very painful trouble. This is a matter of appreciation that the female herb collectors manage this trouble effectively through Bhengra. You will be surprised to know that the healers of this region were not aware of these uses. When I informed them, they showed surprise and when they tried it and they have found it really effective. The female herb collectors of this region are aware of Blue Eclipta species and its natural occurrence in the region. The name of Bhengra is present in the list of medicinal herbs, they collect for commercial trade.

The above mentioned traditional medicinal uses have yet not been reported in reference literatures. It seems that this article is a first written document on this aspect in Chhattisgarh.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India ::
Interactions with the female herb collectors of Bagbahera region.**

The female herb collectors of Bagbahera region frequently meet Bhalu (wild Bear) during the collection of herb particularly during the flowering period of Mahua (*Madhuca latifolia*) and when the groundnut crop is in matured pod stage. Living with this wild animal, the female herb collectors have made some thumb rules. When they visit the forest they go in groups with making chit-chat in loud voice. Secondly, the female bear with kids is ignored always. When Bhalu attacks, do not climb on tree, as common belief run fast in slopes because the Bhalu is not comfortable in slopes. Instead of all thumb rules, they still face this wild animal and get injuries. The increasing population pressure is limiting the area of movement for this wild animal. Through the informal interaction with the female herb collectors of Bagbahera region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

In hot summer days when these herb collectors visit to nearby forests in search of herbs, many times, they get severe headache due to "Loo", the hot wind common in hot summer. To get rid from this severe headache, they use the fruit powder of Aonla (*Emblica officinalis*). The dry fruits are crushed into powder and with the help of cow milk, an aqueous paste is prepared. This paste is applied externally on painful parts as treatment. This paste is applied many times in a day. The use is continued till complete cure. This use is considered as one of the promising treatments. The name of Aonla is present in the list of medicinal herbs, the female herb

collectors of Bagbahera region collect for commercial trade. Besides, its fruits they also collect its different plant parts. I have mentioned in previous articles that the traditional healers of Bagbahera region have in depth traditional medicinal knowledge about herbs useful in treatment of snake bite and scorpion sting. During interaction with the female herb collectors. I got information on one more promising combination. This combination is used by them as first aid measure. They keep this combination with them during visit to forests particularly in rainy season when the incidences of snake bite are high. This combination is prepared by mixing the dry flowers of Kaner (*Thevetia neriifolia*) and Tambakhu (Tobacco) leaves. Both herb parts are mixed in equal proportion and patients are suggested to inhale the combination. The traditional healers of Bagbahera region are also aware of this combination. They confirmed its promising effect as first aid measure. Like Aonla, the name of Mainphal fruit is also present in the list of medicinal herbs collected by these herb collectors. The female herb collectors informed me that to kill the lice, they wash the hairs with Mainphal fruit juice. Its popularity among them, clearly indicates its efficacy. They are well aware of its emetic properties. To induce vomiting, in case of any poisoning, they give the bark of Mainphal to the patients, in form of aqueous extract. They further informed that for the same purpose many traditional healers purchase this herb part from them. The scientific name of Mainphal is *Randia dumetorum*. Bael (*Aegle marmelos*) is a well known non-wood forest produce of Chhattisgarh. The female herb collectors of Bagbahera region informed me that during hot summer days as herbal deodorant they use the leaves of Bael to wash the body. The leaves are either mixed with water used for bath or it is rubbed all over the body and during bath it is washed. In treatment of old fever, the roots of Bael are used in unique way. The freshly collected roots are boiled in cow milk and decoction is taken internally many times a day. The female herb collectors prefer the old trees for the collection of roots. In treatment of Pelea (Jaundice), the female herb collectors are aware of use of Khair (*Acacia catechu*) flowers. They prepare a herbal combination by mixing dry flowers of Khair with Sonth (Dried Ginger). The combination is given a shape of small globules. These globules are taken internally as treatment. The female herb collectors claim that if taken with cow milk, this combination cures the trouble of not only Jaundice but also other liver related troubles. I have tried this combination successfully many times. They also informed about the use of Khair Chhali (Bark) in combination with Aonla fruit. Both herb parts are boiled in water to prepare the decoction. This decoction is used both internally as well as externally in treatment of Safed Daag (Leucoderma). When I asked about this decoction to the traditional healers of Bagbahera region, they suggested that the addition of Bemchi (*Psoralea corylifolia*) seeds in decoction will make this decoction more promising. They suggested its internal use more effective. I have informed the herb collectors about the healers suggestion.

I have noted that the female herb collectors of Bagbahera region have deep faith in traditional medicinal knowledge. The positive thing is that they are using it in their day to day life.

Thank you very much for reading article.

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Herbal dishes of Chhattisgarh, India. 172. Phang Ke Saag.

Phang is local name of *Rivea hypocrateriformis*. The natives of many parts of Chhattisgarh prepare a special curry (Saag) from this herb. Its leaves and young shoots are used for this purpose. It is popular among poor natives. They consume it just for taste. The traditional healers of Chhattisgarh are aware of its health benefits. It is specially recommended to the patients having gynaecological troubles. It is considered as a boon for the patients having Leucorrhoea. As very few natives use it and very few healers are aware of its health benefits, I personally feel that there is a strong need to popularize this curry among the other natives by informing its promising health benefits.

Material Required: Phang leaves and young shoots, Lason (Garlic), Namak (Salt), Tel (Oil), other spices.

Method of Preparation: Phang leaves and young shoots are cut into small pieces. Oil is taken in pan and it is kept on fire. The small pieces of leaves and shoots and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked rice).

For the botany, traditional and reported medicinal uses of Phang, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 121. Kanodi (*Kickxia ramosissima*, family *Scrophulariaceae*).

According to the reference literatures, Kanodi is a herb occurring throughout India and used as remedy for Diabetes. Unfortunately, I have yet not seen this herb in wild. When I was conducting the ethnobotanical surveys in Bhopalpatnam region, many traditional healers identified it with the help of coloured photographs and informed about its many medicinal properties and uses. They are not aware of its use in treatment of Diabetes as mentioned in reference literatures. On the basis of the survey at Bhopalpatnam region, I am giving the details in present article. The traditional healers use the decoction of whole herb during hot summer to nullify the harmful effects of sunstroke. The decoction is also taken internally in treatment of spleen related troubles. Many healers claimed that in combination with other herbs, they use the roots of Kanodi externally in treatment of Leucoderma (Safed Daag). It is also used in treatment of skin related troubles by these healers. These traditional medicinal uses have yet not been reported in reference literatures. When I informed the traditional healers about its reported use, they asked about the method. In reference literatures the method of use is not given. Only the use of whole herb juice is mentioned. The traditional healers assured me that they will try this herb for Diabetes and inform about the results.

Officially the name of Kanodi is not mentioned in the list of medicinal herbs having any demand in national markets. The herb collectors and traders also confirmed this information. They are aware of its natural occurrence in Chhattisgarh. Through the on-going ethnobotanical surveys I am trying my best to gather more information about different aspects of this herb. I will give the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Jagdalpur region.**

Through the interactions with the female herb collectors of Jagdalpur region, I have collected few but important information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Jagdalpur region informed about many traditional medicinal uses of Dhatura (*Datura stramonium* and *D. metel*). Dhatura occurs as wasteland herb in this part of Chhattisgarh. The natives and traditional healers of this region have in depth traditional medicinal knowledge about this herb. The female herb collectors use the leaf juice of Dhatura in treatment of injuries. In combination with cow ghee and rock salt they prepare a special combination. This combination is applied on painful parts as treatment. According to them, this simple treatment removes the pain effectively in very less time. Many senior herb collectors informed that the ash of green fruits of Dhatura can be used in treatment of Malarial fever. The fruits are collected and by keeping it inside the earthen pot, it is burnt and ash is collected. The patients having the problem of Malarial fever are advised to take this ash internally as treatment. They further informed that the ash must be taken in very small amount. Its overdose is dangerous and can take life also. The traditional healers of this region are also aware of this promising use. They confirmed its promising effects. They suggested that in areas where Malaria is a common trouble, the patients must use this ash as preventive to Malaria. Aware of the precautions during use, many female herb collectors prefer to take this ash under supervision of the traditional healers. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the latex of *Satyanashi* (*Argemone mexicana*) in treatment of dropsy caused by seeds of same herb. This is the miracle of the

mother nature. Through the interactions with the female herb collectors of Jagdalpur region I got similar information. In Chhattisgarh, the seeds of Dhatra, narcotic in nature, are used for criminal poisoning. In such cases, the female herb collectors burn the seeds of Dhatra and patients are suggested to inhale the fumes. You will be surprised to know that in majority of the cases the fumes cure the patient. I am amazed with the in depth knowledge of the herb collectors. As supplement treatment, the combination of cow milk and ghee is also given to the patients. The problem of criminal poisoning by Dhatra seeds is common in many parts of the world. I am confident that this traditional knowledge can be of great help to the natives around the world. The names of different parts of Dhatra are present in the list of medicinal herbs, the female herb collectors of Jagdalpur region collect for commercial trade. The female herb collectors of this region are aware of many promising uses of Nirgundi (*Vitex negundo*) flowers also. They use it internally to flush out the intestinal worms. The flowers are roasted with the help of cow ghee and taken internally. The flowers are also considered promising in treatment of spleen related troubles particularly in case of spleen enlargement. The female herb collectors use the flowering tops of Nagdauna (*Artemisia vulgaris*) in treatment of Insomnia. They inhale the sweet smell of this flower many times a day and by simple use get rid from this trouble. In case of complication, they crush the flowering tops and with the help of water, prepare an aqueous paste. This paste is massaged on soles of legs, before going for sleep. According to the herb collectors, this is one of the promising treatments. Many senior herb collectors informed that the locket prepared by using Hanthi Dant (Ivory) is good for health. Also, it protects from the evil spirits. As it is difficult to get Hanthi Dant these days, this use is becoming a thing of past, now a days. In order to gain extra fat, the female herb collectors of Jagdalpur region suggest the natives to include Ghia Taroi (*Luffa aegyptiaca*) in their diet.

The above mentioned traditional medicinal uses are unique. I am feeling proud to document this new information through my articles.

Thank you very much for reading the articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 120. Phang (*Rivea hypocrateriformis*, family Convolvulaceae).

According to the reference literatures, Phang is a climber distributed throughout India. Its roots are used for hastening the process of child birth. Phang is well known herb in Chhattisgarh particularly among the traditional healers. They use it frequently in treatment of gynaecological troubles. Its leaves are edible. The healers suggest the natives particularly the female natives to consume its leaves in form of curry. It is considered as a boon for the patients having the problem of Leucorrhoea. The young shoots are also added in the curry. The healers informed me that the internal use of this curry by normal females helps them to get protection from gynaecological troubles. Many healers recommend this curry for the patients having the problem of piles. They use the leaves externally in treatment also. The leaves are boiled and decoction is prepared. The patients having the piles are advised to sit on tub full of this decoction. According to the traditional healers both internal as well as external use of leaves cures the trouble effectively. Externally the boil the leaves of Phang and after cooling the softened leaves are converted into paste. This paste is used as pain killer and applied on painful joints. The healers also add more herbs to make the paste more useful. The use of its root in child birth, is not practiced by the healers of Chhattisgarh.

Phang is not its local name. the healers of different regions have named in differently according to the growth habit and appearance of this herb. Officially the name of Phang is not present in the list of medicinal herbs, having any demand in national markets. The herb collectors and traders confirmed it. The above mentioned traditional medicinal uses are not enough to establish this herb as potential medicinal herb. I am trying my best to gather more information on different utility aspect of this climber in Chhattisgarh through the on-going ethnobotanical surveys. You will find more details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the female herb collectors of Bilaspur region.

Through the interactions with the female herb collectors of Bilaspur region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Bilaspur region informed about many important uses of different parts of Bar (*Ficus benghalensis*). They informed that the new sprouts of Bar can be used alone or in combination with other herbs in treatment of internal swellings. The traditional healers of Bilaspur region confirmed this use and added that the sprouts can be used in treatment of Diarrhoea also. In treatment of Diarrhoea the female herb collectors use the flowers of Bael (*Aegle marmelos*). The flowers are roasted with little quantity of cow ghee and taken internally. The flowers are used in form of decoction also. The herb collectors informed that the flowers can also be used in same way in treatment of vomiting sensation. The names of different parts of Bael are present in the list of medicinal herbs, the female herb collectors of Bilaspur region collect for commercial trade. Meetha Neem is well known herb. The natives use its leaves for flavour in curries. Its scientific name is *Murraya koenigii*. The female herb collectors use the dry leaves of Meetha Neem in treatment of Mirgi (Epilepsy). The leaves are burnt and patients are advised to inhale the fumes. In normal days, they suggest to use the leaves in same manner in order to avoid further attack. It is common belief among them that burning of the leaves in rainy season destroys evil spirits. I have observed that the burning of leaves repel away the flies and mosquitoes. I am not sure about its effects on evil spirits but in modern times I feel, the flies and mosquitoes are more powerful than the evil spirits. When we started discussion on common herbs and herbal combinations useful as blood purifier, they informed that they use the seeds of Amari (*Rumex* sp.) Bhaji internally for this purpose. The seeds are taken internally upto one month in any part of the year. Many herb collectors roast it before using it. They claimed that the internal use of seeds is also beneficial for the gynaecological troubles. As blood purifier, they also use the seeds of Chandrashoor (*Lepidium sativum*). The aqueous extract of seeds is taken internally. In treatment of skin troubles due to impure blood, they apply this aqueous extract externally on affected parts and take the extract internally at the same time. Both internal as well as external use at a time cures the trouble effectively in less time. Chandrashoor is under cultivation also as medicinal crop. The female herb collectors informed that there is a considerable demand of Jwasa (*Alhagi camelorum*) as medicinal herb. They prepare a special herbal oil by boiling the whole herb in base oil. When all watery contents evaporate, the boiling is stopped and oil is kept for future use. As base oil Til (Sesame seed) oil is used. This specially prepared oil is considered as a boon for the patients having rheumatic pain. The oil is massaged gently on affected parts as treatment. Once prepared in bulk, the herb collectors use it round the year. As Jwasa is annual herb, every year they prepare fresh oil. When I discussed this oil with the traditional healers of Bilaspur region they replied that the more older the oil, the more will be

the effects. In return, I informed the female herb collectors about the healer's comments. The herb collectors thanked me and assured that they will try to store the oil upto long time. Since childhood I am fond of Tendu (*Diospyros melanoxylon*) fruits. The female herb collectors of Bilaspur region informed me that these fruits are good for kidney related troubles and also helps in flushing out the Pathri (Renal Calculi). This was new information for me.

I was not expecting the in depth traditional knowledge before starting discussion with these female herb collectors. Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. The above mentioned uses have been collected through many visits. In every visit when I got encouraging response, I visited the region very frequently. The visits are still on. You will find more details in coming articles.

Thank you very much for reading the article.

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**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 128.
Barachirayata (*Exacum bicolor*, family *Gentianaceae*).**

Like Kalmegh (*Andrographis paniculata*) many traditional healers of Chhattisgarh particularly the healers of Pendra and Bilaspur region use Barachirayata as blood purifier and in treatment of fevers particularly in treatment of Malarial fever. The traditional healers of Nagri-Sihawa region specialized in treatment of fevers, consider Kalmegh more superior whereas the healers of Bilaspur and Pendra region consider Bara Chirayata more beneficial to Kalmegh. The healers of both regions are aware of these two species. Both herbs grow as common herbs in natural forests but Kalmegh is in commercial trade. Barachirayata is collected in small scale, although officially its name is not present in the list of medicinal herbs of Chhattisgarh having any

demand in national markets. According to the reference literatures, the plant possess tonic and stomachic properties and may be substituted for Gentian.

With the help of innovative herb growers of Chhattisgarh I am trying to evaluate its Allopathic properties. I am comparing its performance with the Kalmegh. The initial studies have shown that this herb can be used as pest management tool in organic farming of medicinal and aromatic crops. Many herb collectors of Pendra region informed me that many wild animals particularly Bendra (Monkeys) are aware of its medicinal uses and consume it frequently as medicine at specific period. With the help of herb collectors, I am trying my best to collect more details on this important aspect.

According to reference literatures, botanically it is an erect annuals herb having height upto 60 cm (or even more). Roots fibrous, stem quadrangular, scarcely branched; Leaves very variable in size and form sessile, ovate, elliptic or lanceolate, 5-nerved; Flowers showy, in copious terminal cymes, Corolla tubes 4-5, obliquely obovate, lower half white, the upper blue; Fruits capsule, ellipsoid, smooth, shining, yellowish brown. Flowering time August to December in Chhattisgarh conditions.

Through the on-going ethnobotanical surveys, I am trying to collect more information on different aspects of this herb. You will find more details in coming articles.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Charama region.

Through the interactions with the Rice farmers of Charama region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Like the natives of other regions of Chhattisgarh, the Rice farmers of Charama region are also aware of many uses of Jimikand (*Amorphophallus campanulatus*), but surprisingly they prefer the wild species of Jimikand as compared to the cultivated species. They informed many traditional medicinal uses of Chhui Mui (*Mimosa* sp.). Chhui Mui grows as wasteland herb in this part of Chhattisgarh. The Rice farmers use the aqueous extract of its roots in treatment of Safed Dag (Leucoderma). The aqueous extract is taken internally, in combination with other herbs. It is considered as promising treatment. Many farmers use the aqueous paste of its roots in treatment of Leucoderma externally also. According to them, both internal as well as external use cures the trouble effectively in very less time. The traditional healers of Charama region are also aware of this use but they added that this use is effective at very early stages. I have observed that the number of natives having Leucoderma is increasing in this region of Chhattisgarh. In treatment of Daad (Ringworm), the Rice farmers use many herbs and herbal combinations. The leaves of Sitaphal (*Annona squamosa*) are used by them popularly. They simply apply the leaf juice on affected parts many times a day. The use is continued till complete cure. In complicated cases, they use the decoction of Sitaphal leaves. The leaves are boiled in water and when half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is used to wash the affected parts. Sitaphal is grown in this region for its delicious fruits. Many senior Rice farmers informed that the flowers of Sun (*Crotalaria juncea*) can be used in treatment of all types of internal bleeding. The flowers are roasted with the help of cow ghee and taken internally as treatment. The Rice farmers of Charama region are aware of many traditional medicinal uses of Ankol (*Alangium salviifolium*) plant parts. They use its seeds as aphrodisiac. In general, they take its seeds upto one month in any part of the year, in order to maintain good sexual health round the year. The seeds are used in many ways. Popularly, the seeds are roasted and crushed into powder. This powder is taken internally in combination with Shahad (Honey). The seeds are added in popular herbal combinations used as aphrodisiac. Like the natives and traditional healers of other regions of Chhattisgarh, the Rice farmers of Charama region are also aware of use of Hadjod (*Cissus quadrangularis*) in treatment of fractured bone. The Rice farmers informed that its internal use is also promising in treatment of Mirgi (Epilepsy). They prepare different herbal dishes using Hadjod as main ingredient. The patients are advised to take these dishes in normal days in order to prevent further attacks. During attack the Rice farmers use dry herb. The herb is burnt and the patients are advised to

inhale the fumes coming. As other promising alternatives are available, they use it less frequently, but from documentation point of view it is an important information. I have noted during the ethnobotanical surveys that the Rice farmers keep the dry stem of Hadjod with them. It is common belief among them that the dry stem protects from evil spirits. I am trying my best to search the science behind this belief.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. By knowing the knowledge status of common farmers, you can simply estimate the knowledge present with the experts i.e. traditional healers of this region. Influenced by this observation I frequently visit to this region in search of new knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 174. Punarnava Ke Sag.

Punarnava is a local name of Boerhaavia diffusa. It is well known herb in Chhattisgarh that grows as wasteland herb. The natives and traditional healers have in depth traditional medicinal knowledge about different uses of this herb. Punarnava Ke Sag (Curry) is prepared by using its leaves. The natives consume it for its specific taste but the traditional healers are aware of its health benefits. It is considered as a boon for the patients having digestive system related troubles. The healers specially recommend it to the patients having spleen related troubles. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that

the natives of Chhattisgarh plains consume it more frequently as compared to the natives of other region.

Material Required: Punarnava Leaves, Lason (Garlic), Tel (Oil), Noon (Salt), Hardi (Turmeric), Masale (Other spices).

Method of Preparation. : Oil is taken in pan and it is kept on fire. Punarnava leaves and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported uses of Punarnava, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 127. Balraksha (Gnaphalium luteo-album, family Asteraceae).

Balraksha grows as wasteland herb in Chhattisgarh. The traditional healers are aware of its few but important traditional medicinal uses. Like Bach (Acorus calamus), Jatamansi (Nardostachys jatamansi) herbs, the traditional healers of Chhattisgarh specialized in treatment of Mirgi (Epilepsy) use the whole herb of Balraksha in treatment. The whole herb is burnt and patients are advised to inhale the fumes. They also suggest its use during normal days. In many parts of Chhattisgarh, the natives burn the whole herb in rainy season in order to repel away the flies and mosquitoes. It is considered as promising air-purifier and for this purpose, it is added in different Neem based herbal combinations. In reference literatures, its use as styptic has been

mentioned. When I informed the healers about this reported use, they showed ignorance and when they tried it, they found it very effective. Balraksha is its Hindi name mentioned in reference literatures.

According to reference literatures, botanically, it is annual erect or ascending, densely wooly herb; Leaves sessile, spathulate, obtuse; Heads in dense or branched terminal corymbs; Ray florets filiform; disc florets tubular, 5-lobed; Achenes oblong, brown; Pappus yellowish, deciduous. Officially the name of Balraksha is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb collectors and traders confirmed this observation. Its insect repellent properties are the matter of interest for me. Through the experiments, I am trying to utilize this wasteland herb in organic cultivation of medicinal and aromatic crops. I will give the details, when the on-going experiments will be over.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Narharpur region.

I have observed during the interactions with the Rice farmers of Narharpur region that the Rice farmers of Narharpur region are well aware of medicinal uses of common weeds. As this region is rich in natural forests, they also know much about herbs present in forests. Through the interactions with them I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Narharpur region use different parts of wasteland weed Sarphonka (*Tephrosia purpurea*) very commonly. Like Charota (*Cassia tora*) seeds they use the roasted seeds of Sarphonk to prepare a special hot drink which tastes like coffee. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use Sarphonka roots as smoke in treatment of respiratory troubles specially during Asthmatic attack. The Rice farmers of Narharpur region are also aware of this use and they are using it in their daily life. They informed that the internal use of Sarphonk herb develops natural resistance inside the human body to fight against common diseases. It also flushes out the toxic materials from body. This is the reason the farmers take this herb internally after complete treatment of snake bite. Many farmers informed me that like Charota seeds, many local shop owners purchase the seeds of Sarphonk. Although they get equal weight of Noon (Salt) in exchange of seeds but they are satisfied with some returns from waste plants. Many senior farmers informed that the roots of another wasteland weed Fudhar (*Calotropis gigantea*) can be used in treatment of fevers. By increasing the perspiration, it helps in reducing the body temperature. This use is not much popular among them but from documentation point of view it is an important information. Gorakhmundi (*Sphaeranthus indicus*) grows as winter season weed in crop fields of Narharpur region. Locally it is known as Gudaria. The Rice farmers use it externally in treatment of Bavasir (Piles). The whole herb is boiled in water and decoction is prepared. This decoction is used to wash the anus. They informed that the application of decoction stops the bleeding effectively in less time. When I informed that the natives of many region consider the presence of this herb as an indicator of good fertility, they confirmed it by saying that this herb prefers fertile soil for growth. They further informed that the local shop owners do not purchase this herb or its parts. When I asked the farmers about the use of Makoi (*Solanum nigrum*), a rainy season weed, they informed that in throat related troubles they use its leaves. The leaves are boiled in water and decoction is prepared. The patients are advised to gargle with this decoction. It is considered as one of the promising treatments of Tonsillitis. It is also used in same manner to improve the quality of voice. Many farmers told that they are aware of its use as Curry (Saag) but this preparation is not much popular in this region. Bhengra (*Eclipta alba*) is a well known herb for them. Many of them use its whole herb juice for hair care. I was surprised to know that many young farmers are using its whole herb juice for hair care. I was surprised to know that many young farmers are using its whole herb juice internally with all precautions and care. I have mentioned in previous articles, that only the traditional healers of many regions are aware of this important use. They claim that by judicious use of whole herb juice, one can get rid from all troubles. They recommend it to the old natives to become young again. This is matter of satisfaction that this important traditional knowledge have reached to the young generation in Narharpur region and the great observation is that the young farmers are using it sincerely. Many senior farmers informed that the leaf juice of Chirchita (*Achyranthes aspera*) can be used internally in treatment of Dysmenorrhoea. Chirchita grows as wasteland weed in this region.

During interactions I informed the farmers about the information collected from different regions, about the common weed species. They thanked me. I have observed during the ethnobotanical surveys that this is the traditional knowledge of our farmers that have limited the popularity of weedicides among them like other agrochemicals and weedicides are not taking the place of manual weeding in Chhattisgarh. This is good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 126. Musna (*Viccaria pyramidata*, family : *Caryophyllaceae*).

For the first time I got information about this herb and its traditional medicinal uses from the traditional healers of Nagri-Sihawa region. They use it in treatment of different fevers particularly in treatment of Malarial fever. I have mentioned in previous articles, that the traditional healers using Kalmegh (*Andrographis paniculata*) in form of decoction in treatment of fevers, add some unknown herbs in order to nullify some harmful effects of Kalmegh. At that time I was not aware of addition of Musna roots in this decoction. Although Musna is a common herb in Chhattisgarh but the traditional healers of Chhattisgarh are not much aware of its uses. The traditional healers specialized in treatment of Malarial fever informed that Musna can be substituted by other common herbs for the same purpose. The traditional healers of Southern Chhattisgarh use, the whole herb in form of ash in treatment of diabetic carbuncle. Musna is not a local name of this herb. I have yet not heard its local name. the traditional healers of different regions have kept some names for their ease and as in most of the cases they collect it from wild, not with the help of co-workers, according to them, there is no need to name this herb. In reference literatures, its use in chronic fevers and depurative scabies have been mentioned.

Officially, the name of Musna is not present in the list of medicinal herbs having any demand in national markets. The herb collectors and traders confirmed this information. The above mentioned new information on its traditional uses, collected through recently ethnobotanical surveys, motivated me to write a separate article on this herb.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Rice farmers of Mahasamund region.

Although this region is very close to Bagbahera region but from traditional medicinal knowledge point of view, both regions can not be considered as same. Through the interactions with the Rice farmers of Mahasamund region. I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The Rice farmers of Mahasamund region informed me about many important traditional uses of common weeds. Sawan (*Echinochloa colona*) is well known weed for Rice crop. Many senior Rice farmers are aware of its medicinal uses. They informed that the ash collected after burning the whole herb can be used in combination with other herbs in treatment of liver related trouble. According to them, its use in normal days helps in normalizing the function of liver. The traditional healers of this region are also aware of this use. They added that the ash can be used as supplement treatment to main treatment. Gorakhmundi or Mundi (*Sphaeranthus indicus*) is a common winter season weed. I have mentioned in previous articles that the natives and traditional healers of many region use this herb in treatment of troubles related to respiratory system. It is considered as a boon for the patients having Eosinophilia. The Rice farmers of Mahasamund region use the whole herb of Gorakhmundi in treatment of Nocturnal emission (Night Pollution), a common trouble in young age. The herb is collected and after

shade drying converted into fine powder. The youths are advised to take this powder internally at night, with Shahad (Honey). Many senior farmers suggest its external use besides internal use. Externally the whole herb powder is applied on the soles of legs in form of aqueous paste. According to them, both internal as well as external use cures the trouble effectively in very less time. Like Sawan, many Rice farmers use the roots of another problematic grassy weed Kansi (*Saccharum spontaneum*). The roots are burnt and ash is taken in same manner. But its is considered less promising as compared to the Sawan. From documentation point of view it is an important information. The leaf juice of Kukronda (*Blumea lacera*) is used internally in the treatment of Jalodari (Ascites). The juice is taken internally in small doses. The leaves collected before flowering are considered best for this purpose. Kukronda grows as field and wasteland herb in winter season. In general, the Rice farmers try to manage the trouble of Ascites through Kukronda leaves but in case of complications approach to the traditional healers for systematic treatment. The Rice farmers are aware of use of roasted seeds of Rahar (Pigeon pea). The seeds are converted into powder after roasting and with the help of water prepare an aqueous paste. This paste is used in treatment of all types of pain. They popularly use it in treatment of Migraine (Adhasisi). According to them the external use of this paste reduces the intense pain effectively in very less time. This was new information for me. When we started discussion on common herbs and herbal combinations useful in treatment of Piles (Bavasir), they informed about the promising uses of Ankol (*Alangium salviifolium*) roots. The aqueous extract of roots is taken internally for this purpose. The traditional healers of Mahasamund region confirmed the promising effects of Ankol roots, but they added that in long term it gives more promising effects. Untkatara (*Echinops echinatus*) grows as wasteland weed in Chhattisgarh. The Rice farmers informed that the aqueous extract of roots can be used successfully in treatment of Spleen related troubles.

The above mentioned traditional medicinal uses are unique and it is beyond the imagination to understand the in depth traditional medicinal knowledge about common herbs, the Rice farmers of Mahasamund region are having. They are not much aware of the importance of this knowledge. When I meet to them and write down all the information, they show surprise because no one has ever asked them about their knowledge.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India less known traditional uses. 94. Jangli Sarson or Khoobkalan (*Sisymbrium irio*, family Cruciferae).

I have mentioned in previous articles on Khoobkalan Ke Shurbut, I have mentioned that how this herb is used in form of Shurbut, in treatment of many common troubles. Khoobkalan is its Hindi name. Locally this herb is known as Jangli Sarson. Sarson means mustard. As it is Cruciferus plant and looks like Sarson, it is named as Jangli (Wild) Sarson. During the ethnobotanical surveys I have seen this herb in almost all parts of Chhattisgarh. In many parts its present in crop fields, have established it as weed. In reference literatures related to weed science, Jangli Sarson is mentioned as problematic weed. But for the natives and traditional healers of Chhattisgarh aware of its medicinal importance and traditional medicinal uses, it is an important herb. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh I have collected few but important information on traditional medicinal uses of this herb. Before giving the details, I am describing its botany, I have noted from reference literatures. Botanically, Jangli Sarson is an erect, branched herbs; Lower leaves petiolate, lyrate-pinnatifid and pinnati partite toothed, upper one larger; Racemes 50-80 flowered; Flowers upto 30 cm long in fruit with pods over topping young flowers and buds; pods linear, often slightly upcurved, faintly 3-nerved; seeds 20-40 in each locule, oblong, ellipsoid, brown. In Chhattisgarh, it grows as winter season herb.

The traditional healers of Chhattisgarh specialized in treatment of Asthma, frequently use this herb in treatment both internally as well as externally. Internally it is given alone or in combination with other herbs. The traditional healers informed me that its leaves possess some harmful properties. Hence, they use the whole herb of Jangli Sarson internally. They further informed that the roots of Jangli Sarson have some specific properties that nullifies the harmful effects of its leaves. I was surprised with their knowledge and explanation. I am sure that our researchers will search for the exact explanation and the natural chemicals responsible for these effects. Externally, the whole herb is dried and put on fire. The patients having Asthmatic attack are advised to inhale the fumes coming from burning herbs. The healers explained that the fumes helps in clearing the respiratory tract and very soon they feel great relief. If stored properly, this herb can be used successfully whole year with same effects. The healers informed that this use is free from side effects and can be used life long but they give emphasis on systematic treatment and complete cure, instead of temporary relief. The healers gave valuable information that when they burn the dry herb, its fumes helps in repelling away the flies . By seeing its effect, many healers are now suggesting the cattle owners to burn this herb in cattle shed in order to provide comfort to the cattle from the flies. Many healers are aware of use of Jangli Sarson in treatment of Piles but as other promising alternatives are available, they use it less commonly.

Although officially the name of Jangli Sarson is not present in the list of medicinal herbs having any demand in national and international markets but the herb collectors of Chhattisgarh informed that there is a fair demand of this herb and they collect its whole herb and supply it in dry form. They added that in the name of Jangli Sarson, many herbs are traded and it is very hard to identify these herbs in dry form. This information has motivated me to try my best to establish this herb as potential medicinal weed so that the farmers can earn from this so-called weed. I have suggested it as new organic input to manage the pest problem in organically grown crops to the herb growers. The field trials are on. You will find more details about this herb in my coming articles.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 119. Gulab Banda (*Rhynchostylis retusa*, family Orchidaceae).

Due to its pink and white flowers, among the herb collectors of Chhattisgarh this herb is popular as Gulabi Banda. In local language Banda is a name for any Orchid. The natives involved in Tantra activities consider the Orchids, as the gift of God and I have observed during the ethnobotanical surveys that no one knows better than these natives about Orchids. The herb vendors of Chhattisgarh keep different Orchids or its parts in dry form with them. It is common belief in Chhattisgarh particularly among the rich natives that by keeping these herb parts with them, they can get prosperity and happiness. Many of them use it as a measure to root out the problem of family tension. Gulabi Banda occurs naturally in dense forests of Chhattisgarh. Although it is common in almost all parts of the state but the forests of Southern Chhattisgarh are more rich in its natural population. The traditional healers are aware of its few but important traditional medicinal uses. The healers of Southern Chhattisgarh specialized in treatment of mouth cancer prepare a special decoction by boiling the whole herb of Gulabi Banda in water. They use this decoction to dress the cancerous wound. This use has established this herb as an important herb among the traditional healers. Many healers use the whole herb of Gulabi Banda in powder form in combination with other herbs, in treatment of Mirgi (Epilepsy). The healers of Pendra region use Gulabi Banda in treatment of blood-related disorders. They also use it in combination with other herbs. According to the reference literatures, the fresh plant is used as emollient. Unfortunately the traditional healers of Chhattisgarh are not much aware of this use.

Although officially the name of Gulabi Banda is not present in the list of medicinal herbs having any demand in national markets but according to the herb collectors and traders it is in trade. You will be surprised to know that there is a fair demand of this Orchid as ornamental herb. Many senior traditional healers informed that in last few decades its population has decreased to many folds. This is shocking information. Through this article I would like to request the concerned authorities to pay immediately attention on conservation of this orchid.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Female herb collectors of Saraipali region.**

Through the interactions with the female herb collectors of Saraipali region I have collected few but important information on traditional medicinal uses of common herbs. I am sending the details.

Kundru (*Coccinia grandis*) is well known vegetable crop in Chhattisgarh. Its green fruits are eaten as vegetable and juice from leaves and roots is used for diabetes. Through the interactions with the female herb collectors of Saraipali region, I got new information about unique use of its roots. They informed that the roots can be used as male aphrodisiac. During intercourse the fresh roots are kept inside the mouth and the juice is allowed to go inside. This use delays the ejaculation. The female herb collectors further informed that very few natives are aware of this unique use. But the traders are aware of this unique use. This is the reason,

during cropping season, many troubles ask for fresh roots. The herb collectors are aware that the collection of roots can destroy the whole herb because roots are collected when crop is at vegetative stage. You will be surprised to know that many herb collectors grow this herb in home gardens for its useful roots. The traditional healers of this region were not aware of this unique use. Later, they tried and confirmed its promising effects. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the roots of Kevatch (*Mucuna pruriens*) in same manner. Afeem (Opium) is also used but the use of Afeem has many minus points. The female herb collectors of Saraipali region informed that as Kundru is undercultivation through chemical farming, the roots collected from the commercial farms are not suitable for this purpose. Many senior herb collectors dip the Kundru roots overnight in rice water and next morning give it to their male partners. According to them, this dipping eliminates the harmful properties of Kundru roots. Like the natives of other parts of Chhattisgarh, the female herb collectors of this region are also aware of use of medicinal insect Gubrila (Dung beetle) in case of Scorpion sting. They simply collect the Gubrila and crush it. The crushed Gubrila is applied on affected portion as treatment. This is considered as promising first aid measure. The female herb collectors prepare a special herbal combination by mixing all parts i.e. roots, leaves, flowers and bark, Jason (*Hibiscus rosa-sinensis*) and used it in treatment of mental depression. All parts are collected and dried in shade. After drying all parts are mixed in equal proportion. This combination is boiled in cow milk and patients are suggested to take the milk internally. According to the herb collectors, this long term use gives promising results. Jason is well known herb of religious and medicinal importance. It is planted as ornamental herb in home gardens. The female herb collectors informed that the monkeys (Bendra) are fond of Bambri Gond (*Acacia nilotica* gum). They eat it with taste. The name of Bambri Gond is present in the list of medicinal herbs and herb parts, the female herb collectors collect for commercial trade. According to them, the monkeys are their rival as they eat away the Gum. The female herb collectors are aware of its medicinal properties and uses. After frying it with cow ghee they consume it with taste. According to them, its internal use develops a natural resistance inside the human body to fight against all the diseases. Its one time use in any season helps in maintaining good health round the year. Bambri is well known tree in Chhattisgarh. The female herb collectors having the problem of chronic constipation prepare a special decoction by boiling Bambri leaves in water. This decoction is taken internally at night. Its regular use cures the trouble effectively in very less time. Its popularity among them clearly indicates its efficacy.

Many of the above mentioned traditional medicinal uses like the use of Kundru roots, are unique and need scientific attention. The important observation is that the female herb collectors are still having deep faith in traditional knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 171. Dain beeja Ke Saag.

Dain is a local name of *Arisaema tortuosum*. In many parts of Chhattisgarh, the natives use its seeds as vegetable. This preparation is known as Dain beeja Ke Saag (Curry). In general, this herb is considered as poisonous. Aware of this fact, the natives dip the seeds overnight in water and use it next morning to prepare the curry. This curry is popular among the poor natives. They consume it for its specific taste. Many traditional healers are aware of its health benefits. They consider it promising in treatment of digestive system related troubles. They also recommend it to flush out the intestinal worms. They suggest the natives to consume this curry in limited amount as over consumption can cause harmful effects. As it is prepared by adopting routine method of curry preparation I am not giving the details in present article.

For the botany, traditional and reported medicinal uses of Dain herb, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 118. Kariyar Bhengra (*Anisomeles indica*, family Labiatae).

Although it is locally known as Kariyar Bhengra but it is not used as Bhengra (*Eclipta alba*). This herb is well known to the organic growers of Chhattisgarh particularly to the farmers engaged in commercial cultivation of Indian medicinal and aromatic crops. They are using its leaves as insect repellent. Many farmers have planted this herb in the periphery of crop fields as guard crop. They have found it more promising as compared to the Bach (*Acorus calamus*) and Gonda (*Tagetes erecta*). Kariyar Bhengra is a common herb in wild. In natural forests, I have seen it in many parts of Chhattisgarh. In reference literatures related to different systems of medicine, it is mentioned that the plant has carminative, astringent and tonic properties and the essential oil is used in treatment of uterine affections. Unfortunately the traditional healers of Chhattisgarh are not much aware of these uses. The healers of different parts of Chhattisgarh use it differently. The healers of Chhattisgarh Plains, use its roots to prepare a decoction. The patients having the problem of Insomnia are advised to dip their legs (upto knee) in this decoction and sit upto two hours. According to the traditional healers, this decoction roots out the trouble effectively. The patients having the problem of Mirgi (Epilepsy) are suggested by the traditional healers of Southern Chhattisgarh to boil the leaves in water and inhale the vapour. This treatment is practiced during normal days. In combination with other herbs, the healers of Chhattisgarh prepare an aqueous paste using its leaves. This paste is applied on painful parts in order to reduce the intense pain. This paste is considered as a boon for the patients having the problem of Adhasisi (Migraine).

Officially, the name of Kariyar Bhengra is not present in the list of medicinal herbs having any demand in national markets. But many herb collectors informed that they collect its different parts frequently as per demand by the herb traders. The popularity of this herb is increasing among the herb growers of Chhattisgarh. It is good sign. I personally feel that there is a need of systematic research to find out other promising uses of this herb without any delay.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female herb collectors of Kondagaon region.

Through the interactions with the female herb collectors of Kondagaon region I have collected many valuable information on traditional medicinal knowledge about common herbs. I am giving the details in present article.

The female herb collectors of Kondagaon region informed that the seeds of Piaz (*Allium cepa*) can be used externally in treatment of Safed Dag (*Leucoderma*). The seeds are crushed into powder and with the help of water an aqueous paste is prepared. This paste is applied externally on spots as treatment. The traditional healers of this region are also aware of this use. They confirmed its promising effects but added that this paste gives promising results at initial stage. The female herb collectors are aware of many medicinal uses of Punarnava (*Boerhaavia diffusa*). They use it frequently in treatment of eye related troubles. In treatment of common eye troubles, they crush the roots of Punarnava and with the help of whole herb juice of Bhengra (*Eclipta alba*), prepare a solution. Few drops of this solution are applied into the eyes as treatment. According to the herb collectors this use cures the problem of intense itching. Many senior female herb collectors informed that its roots can be used in treatment of Rataundhi (Night blindness). The roots are boiled in aqueous solution of Gobar (Cow dung) and after one boiling, Pipal (*Ficus religiosa*) leaves are added. The solution is boiled further. The concentrated solution is applied into the eyes as treatment. The long term use cures the troubles effectively. The names of different parts of Punarnava are present in the list of medicinal herbs, the female herb collectors of Kondagaon region collect for commercial trade. Kasturibhendi (*Abelmoschus moschatus*) is under cultivation as medicinal and aromatic crop in Kondagaon region. When the female herb collectors informed about the medicinal uses of its leaves, I surprised. They claimed that the related species of Kasturibhendi is present in wild. The female herb collectors informed that the leaves of this medicinal herbs can be used in treatment of Sujak (Gonorrhoea). Many of them informed that it acts as male aphrodisiac and therefore, the leaves are added in popular herbal combinations. This was new information for me. The traditional healers of Kondagaon region showed ignorance about this use but they promised that they will try the leaves in their routine practice. I am eagerly waiting for the results. In treatment of troubles due to intestinal worms, the female herb collectors use the roots of Anar (Pomegranate). The roots are boiled in water and decoction is prepared. This decoction is taken twice a day. According to them, this decoction flushes out the worms effectively in very less time. The use is continued till complete cure. Anar is well known herb in Chhattisgarh. It is popular for its delicious fruits. All parts of Anar are used as traditional medicine in Chhattisgarh. The patients having the problem of Leucorrhoea are suggested by the female herb collectors of Kondagaon region to wash the vagina with special decoction. This special decoction is prepared

by boiling the inner bark of Ama tree (*Mangifera indica*) in water. This use is very popular among them. Besides this external use, they take many herbs and herbal combinations internally also. In previous articles I have mentioned that the natives and traditional healers of many parts of Chhattisgarh, dye the white cloth with the help of herbs or herbal parts. This coloured cloth is used in treatment of many common diseases. I have mentioned that the cloth dyed with Gondla (*Cyperus* sp.) is recommended for the patients having mental tension. The female herb collectors of Kondagaon region informed that the white cloth dyed with Kusum (*Carthamus tinctorius*) gives extra vigour and is specially recommended to the newly wed couples. The flowers are used as dye. This colouring gives special aroma to the cloth. The senior female herb collectors informed that in early days this use was very popular but now a days it is becoming a thing of past. Kusum is under cultivation as oil seed crop in Chhattisgarh. I am feeling proud to document this unique traditional knowledge.

The in depth traditional knowledge of the female herb collectors is now forcing me to conduct more detailed ethnobotanical surveys in this region. I will write more about their unique knowledge in coming articles.

Thank you very much for reading the article.

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**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 117.
Kariyartharani (*Stachytarpheta mutabilis*, family Verbenaceae).**

According to the reference literatures, Kariyartharani is a shrub, native to tropical America and is now reported to have been introduced into Indian gardens and has run wild at hill stations of India. It is cultivated as an ornamental and as border plant. Although the reference literatures on flora and the traditional healers and herb collectors of Chhattisgarh claim that this herb is present in isolated patches in many parts of the state but I have yet not seen it in wild. As an ornamental herb this herb is known to me. When I showed the photograph of this herb to the traditional healers of Northern Chhattisgarh, they identified it easily. This is a matter of surprise

that they have yet not coined its local name. Kariyartharani is its Hindi name mentioned in reference literatures. This is a matter of appreciation that in very less time the traditional healers of Chhattisgarh have not only developed its medicinal uses but also they are using it in their routine practice. The traditional healers use its bark internally in treatment of gynaecological troubles in combination with other herbs. The patients having the problem of Leucorrhoea are advised to wash the vagina with the decoction of its bark, many times a day. The traditional healers of Nagri-Sihawa region use its root bark in combination with other herbs in treatment of Malarial fever but as other promising alternatives are available they use it less frequently. In reference literatures, related to different systems of medicine in India, I have yet not found any detail regarding medicinal uses and properties of this herb.

Officially, the name of this herb is not present in the list of medicinal herbs having any demand in national markets. During the ethnobotanical surveys, many healers requested me to inform them about the potential buyers and markets of this herb. I assured them that I will try to search its market. They are happy that the healers have started its medicinal uses. Through this article I would like to request the researchers of Tropical America working on ethnobotanical uses of this herb to share the information so that this herb can be utilized for the betterment of whole world.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female herb collectors of Jashpur region.

Though the interactions with the female herb collectors of Jashpur region I have collected few but important information on traditional medicinal uses of common herbs. I am giving the details in present article.

Like other parts of Chhattisgarh Bariyara (*Sida acuta*) is also a common weed in this part of Chhattisgarh. The female herb collectors of this region are well aware of its medicinal properties and uses. They informed that the root bark of Bariyara, collected before flowering, can be used in treatment of problem of frequent urination. This trouble is common in diabetic patients. The root bark is boiled in cow milk and taken internally as treatment. It is considered as one of the promising treatments. In treatment of Pathri (Renal Calculi), the leaves are dipped in water overnight and next morning leachate is taken internally empty stomach. The use is continued till completed cure. According to them, this simple treatment helps in managing the problem to the great extent. They also take this leachate after flushing out the stones in order to prevent the further stone formation. The traditional healers of this region are also aware of this use. They confirmed its promising effect. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the virus infected leaves of Doobi (*Cynodon dactylon*) in treatment of many common diseases both internally as well as externally. From the female herb collectors of Jashpur region I got new information on medicinal uses of virus infected leaves of Bariyara. They use it internally in treatment of swellings whereas externally it is used to get rid from intense pain. The traditional healers of Jashpur region were not aware of this unique use. Later, when they tried, they got surprised to experience its miraculous effects. They appreciated the in depth traditional medicinal knowledge, the female herb collectors of their region are having. The female herb collectors use the leaf juice of ornamental herb Gonda (*Tagetes erecta*) in treatment of breast related troubles. It is used externally. Its popularity among them clearly indicates its efficacy. Many senior herb collectors of Jashpur region informed that the flowers of valuable medicinal herb Nagkesar (*Mesua ferrea*) can be used successfully in treatment of Piles (Bavasir). The flowers are roasted with the help of cow ghee and taken internally. The traditional healers of this region consider it as supplement treatment of main treatment. They added that the roasted flowers are beneficial for many gynaecological troubles and the women must not miss the chance of its internal use in any form. I have written a lot on various aspects of Pipal (*Ficus religiosa*) in my previous articles. Pipal is well known tree of religious and medicinal importance in Chhattisgarh. The female herb collectors of Jashpur region informed about new uses. They extract the juice from Pipal leaves and same amount of Neem leaf juice is added in it. This solution is used in treatment of Mirgi (Epilepsy). Few drops of solution are applied into the nostrils during attack. They also suggest the patients to keep this solution always with them and in case of attack, without any delay, apply it into the nostrils. The Pipal leaf juice is taken internally also. the patients are advised to take this juice in combination with Shahad (Honey). According to them, its long term use helps the patients to get rid from this complicated trouble.

Most of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. I am thankful to the mother nature for giving me opportunity to document this traditional medicinal knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 116. Bilailotan (*Nepeta hindostana*, family Labiatae).

In Chhattisgarh, many herbs are known by name. I have mentioned in previous articles about many types of Mamira. The example of Bilailotan is also among these examples. In the name of Bilailotan many herbs are available. Bilai mean Cat. The cat like this herb very much. This is the reason this herb is named as Bilailotan. At national level, many Bilailotan herbs are present with lot of confusion. Many times I think that it is very awkward to say that any cat likes only specific species, not many species. From this view, for the cats of different regions, many Bilailotan herbs can be identified. The most popular Bilailotan herb of Chhattisgarh is *Nepeta hindostana* (Syn. *N. ruderalis*). It occurs as wasteland herb in almost all parts of Chhattisgarh. Although this is common herb but surprisingly the natives and traditional healers are not much aware of its medicinal properties and uses. During the ethnobotanical surveys I have noted that very few traditional healers are using this herb in their routine practice. The traditional healers of Chhattisgarh specialized in treatment of snake bite, use its roots in treatment. The fresh roots are used both internally as well as externally. Many of them use it in form of decoction but there are other who use it in combination with other herbs, in powder form. I have seen the roots of this herb with the herb vendors of Chhattisgarh. They sell it as remedy of snake bite but most of them are not able to give the correct information regarding its use. The traditional healers of Chhattisgarh Plains use the roots and seeds of Bilailotan in popular herbal combinations used as aphrodisiac. The plant parts are added in very limited quantities. In many parts of the Chhattisgarh, the natives burn the dry herb in rainy season, in order to repel away the flies. Many young entrepreneurs are engaged in developing mosquito repellent liquid using this herb. It is also used for the same purpose by the cattle owners of Chhattisgarh.

According to the reference literatures, the leaves of this plant yield pale-yellow oil. The plant is used as cardio tonic and in fevers. It is also reported that in Nepal it is used as a remedy against gonorrhoea. The decoction of whole herb is used in many parts of India as a gargle for sore throat. Unfortunately, the traditional healers of Chhattisgarh are not much aware of these important information.

Officially, the name of this herb is not present in the list of medicinal herbs having any demand in national markets. The herb collectors collect it different parts of fulfill the requirement at local level. Through the on-going ethnobotanical surveys, I am trying my best of gather more information on different aspect of this herb.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the female herb collectors of Khairagarh region.**

Through the interactions with the female herb collectors of Khairagarh region I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

For the bites by poisonous snake or insect, the female herb collectors of Khairagarh region, take systematic treatment from the traditional healers. After this treatment to nullify the harmful effects of poison, they use many herbs and herbal combinations. The use of Jangli Chaulai (*Amaranthus spinosus*) roots is among popular uses. The root extract is taken internally in combination with cow ghee upto long time. Jangli Chaulai grows as wasteland herb in Chhattisgarh. This combination is taken upto long time. The female herb collectors use the fresh herb of Doobi (*Cynodon dactylon*) in treatment of Bavasir (Piles). The whole herb is dipped in earthen bowl filled with water. The bowl is kept on fire and patients are advised to expose the anus in vapour. This use is very common among them. I have mentioned in previous articles that the natives of many parts of Chhattisgarh, use the whole herb of Doobi to clear the anus after motion, for the same purpose. The traditional healers of Khairagarh region are also aware of use of Doobi dipped in earthen bowl but they suggested the use of white leaved Doobi in order to get more promising effects. White leaved Doobi means virus infested leaves. They further informed that Doobi in any form is very useful in treatment of Khooni Bavasir (Bleeding piles). The female herb collectors of Khairagarh region are aware of many traditional uses of Nagdauna (*Artemisia vulgaris*). They use its whole herb juice in treatment of Mirgi (Epilepsy). The juice is applied into the nostrils during attack. Many senior herb collectors informed that the roots of Nagdauna can be used to flush out the Pathri (Renal Calculi). They also use it as male aphrodisiac. To clear the spots of Chicken pox, the female herb collectors use the latex (Doodh) of Thura (*Euphorbia neriifolia*). It is applied many times a day on spots. It is considered as one of the promising treatments. The names of different parts of Thura is present in the list of medicinal herbs the female herb collectors collect for commercial trade. The name of Dhawai is also present. In order to avoid the chances of Abortion, they use Dhawai phool (Flowers of *Woodfordia fruticosa*) internally. They are aware of its narcotic properties. Hence they take it in limited doses. Nirmali (*Strychnos potatorum*) is a well known herb in this part of Chhattisgarh. The female herb collectors use its roots as blood purifier and for the patients having the problem of Leucoderma, the roots are considered very promising. They use it both internally as well as externally. During discussion on Gondla (*Cyperus* sp.) I got an important information. The patients having the problem of mental depression are suggested by the herb collectors to wear white cloth coloured with the root extract of Gondla. It is common belief among them that this simple use makes the patients happy. Later, the traditional healers of Khairagarh region confirmed this miraculous effect. I am trying to search the science behind this use. In general, the healers suggest all the natives to wear this coloured cloth once in a month, in order to maintain the mind tension free.

The above mentioned traditional medicinal uses are unique. I am feeling proud to document this important knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 170. Rukhalu Ke Saag.

Rukhalu is a local name of *Remusatia vivipara*. The natives of many parts of Chhattisgarh, use its leaves as vegetable. The curry (Saag) is prepared from its delicious leaves. The natives are not aware of its health benefits. The traditional healers consider this preparation as blood purifier. They suggest the patients having skin related troubles to increase the consumption of this curry. Its use as curry is more popular among the poor natives as compared to the rich natives.

Material Required: Rukhalu leaves, Lason (Garlic), Tel (Oil), Namak (Salt), Masale (Spices).

Method of Preparation: Oil is taken in pan and it is kept on fire. The leaves are cut into small pieces and in combination with other ingredients roasted well in pan. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Rukhalu, please read my precious articles.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 115. Gulsham (*Eranthemum roseum*, family *Acanthaceae*).

Among the traditional healers of Chhattisgarh, this herb is popular for its valuable tuberous roots. They use it in treatment of almost all gynaecological troubles both internally as well as externally, alone or in combination with other herbs. According to the traditional healers and herb collectors of Chhattisgarh, in natural forests, this herb is present in isolated patches. Once collected in bulk, they use its roots upto very long time. Gulsham is not its local name. The healers of different regions have named this herb differently. All names are based on its attractive flower colour. The traditional healers of Southern Chhattisgarh use the roots of this herb in combination with Dasmool (*Asparagus racemosus*) roots as female tonic. They claim that the addition of Gulsham roots reduces the harmful effects of Dasmool roots. I was not aware earlier that Dasmool roots causes any harmful effects also. The combination of roots is given after boiling it in lukewarm milk. The traditional healers of Chhattisgarh Plains use its roots alone, in treatment of Leucorrhoea. Its use in treatment of this trouble is also reported in reference literatures. During pregnancy, the traditional healers of Gandai-Salewara region suggest the internal use of these roots in powder form in order to make the unborn healthy and free from all troubles. The healers use it in specific doses. They informed me that overdose can cause harmful effects. During the ethnobotanical surveys, I have noted that the traditional healers of Northern parts of the state are not much aware of this herb.

Officially, the name of Gulsham is not present in the list of medicinal herbs having any demand in national markets. The herb collectors collect it for the healers of the regions where it do not occur in wild. They do not collect it in bulk for commercial trade. The herb traders confirmed this information. As the traditional healers are capable of treating the gynaecological troubles with the help of other herbs and herbal combinations, the popularity of Gulsham roots among them is decreasing and this use is becoming a thing of past. This observation motivated me to document the traditional medicinal knowledge about this herb in Chhattisgarh, without any delay.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the female herb collectors of Tilda region.**

Through the interactions with the female herb collectors of Tilda region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use the different parts of Bhatkatiya (*Solanum xanthocarpum*) herb in treatment of diseases related to respiratory system. The curry prepared from its leaves and fruits is also very popular among the natives. The female herb collectors of Tilda region use the roots of Bhatkatiya in treatment of troubles related to respiratory system. The roots are used in form of decoction. To make the decoction more useful, they add Adrak (Ginger) juice in it. The root extract and Adrak juice are mixed in equal proportion. The combination is boiled in water. When half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is taken internally many times a day. This decoction is considered as a boon for the patients having Asthma. It is used as both curative and preventive. The traditional healers of Tilda region are also aware of this decoction. They confirmed its miraculous effects. In treatment of common eye troubles, the female herb collectors use the leaf juice of Bhatkatiya. In case of complications, they consult the traditional healers for systematic treatment. Like the natives of other region, they also give more importance to white (rare) flowered Bhatkatiya herb. Many herb collectors use the powdered bark of Khair (*Acacia catechu*) in small doses, in treatment of Diarrhoea. But as other promising alternatives are available, they use it less frequently. During discussion, they informed me that the overuse of Khair plant parts in any form, is harmful to pregnant women. In overdose, it can result in abortion. The traditional healers added that the overdose of Khair plant parts is equally harmful to the men. It develops sterility problem within them. Aware of these harmful effects, the female herb collectors use Khair plant parts under the supervision of traditional healers. Many senior female herb collectors informed that the external use of Kuchla (*Strychnos nuxvomica*) in combination with Sirka (Vinegar) cures the problem of Ringworm (Daad). The female herb collectors of present generation successfully manage this trouble with

the help of Charota (*Cassia tora*) seeds. Like other parts of Chhattisgarh, Kusum (*Carthamus tinctorius*) is also under cultivation as oil seed crop in Tilda region. The female herb collectors informed me about many traditional medicinal uses of Kusum or Barra. During fever in order to reduce the high body temperature, they take the Kusum flowers internally. The flowers are roasted with the help of cow ghee and taken internally. The internal use of this flowers result in excessive perspiration and in very less time the patients feel great relief. The herb collectors also use the dry flowers internally in case of Pelea (Jaundice). The flowers are taken in small doses. The healers of Tilda region are also aware of this use but they told that the flowers can be used as supplement treatment to main treatment. Alone this remedy is not capable of treating the problem of Pelea. Many herb collectors informed that they use the leaves of Gunja (*Abrus precatorius*) and roots of Chita (*Plumbago zeylanica*) externally in treatment of Leucoderma. This was new information for me.

Although Tilda region is very close to the capital city Raipur but you will be surprised to know that the barter system i.e. purchase of herbs in exchange of Namak (Salt) or other commodities of regular life, is still in progress in this region. This is not a good sign.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 114. Dain or Sanp-Ke-Chhata (*Arisaema tortuosum*, family Araceae).

According to the reference literatures, *Arisaema* is a genus of herbs, many of which are distributed in temperate Himalayas. The species are sometimes referred to as the Cobra or Snake lilies or the Green Dragons because its Spathe resembles to Cobra-head. The traditional healers and herb collectors of Chhattisgarh claim that this special herb is present in natural forests. The reference literatures on flora also support their claim but I have yet not seen this

herb in wild. Due to the specific shape of the Spathe, the natives engaged in Tantra activities show special interest in collection of this herb. The herb vendors prepare Herbal Mala and Locketts using Dain (in Hindi Witch) roots. It is common belief in many parts of Chhattisgarh that this Mala protects the children from evil spirits. Many healers recommend this Mala to the children having the problem of Sukhandi (Marasmus). I am trying to search the science behind this use. For the traditional healers of Chhattisgarh specialized in treatment of different types of cancer, Dain is a valuable herb. In general, its roots are considered poisonous. According to the healers, this herb is added as essential component in the herbal combination with the herbs that can nullify its harmful effects. This important use has yet not been reported in reference literatures. I am confident that this unique knowledge can save many lives around the world. Although the healers hesitate to disclose this unique knowledge but living with them I have seen that they dip the Dain roots in special herbal solution having Pasia (Rice water) upto four days. Only after this treatment the roots are used in herbal combinations.

The uses of its roots as insecticides and worm killers are mentioned in reference literatures but the traditional healers of Chhattisgarh are not much aware of these uses. Officially, the name of Dain is not present in the list of medicinal herbs having any demand in national market but many herb collectors informed that they collect it occasionally on the request of the herb traders. Like its relative species Bach (*Acorus calamus*), this herb also prefers the shady and swampy place for good growth. The herb collectors do not sell it in Kilos. They sell the individual plant or root as it is very troublesome to collect the herb from wild. Also, the herb collectors do not collect it on all days. According to them, it is magical plant and must be collected with care. I have noted during the ethnobotanical surveys that very few herb collectors are aware of its natural presence in wild.

I am eager to see this herb in wild at first and after this, I would like to study it because in calendars and science books, I am seeing it since my childhood.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Dongargarh region.**

Through the interactions with the female herb collectors of Dongargarh region, I have collected few but important information on traditional medicinal uses of common herbs, I am giving the details in present article.

In treatment of swellings, the female herb collectors use many herbs and herbal combinations externally. The use of herbal combination prepared by mixing Dhaincha (*Sesbania* sp.) Chhali and Dhatra (*Datura* sp.) leaves in equal proportion is very popular among them. This combination is applied externally in form of aqueous paste. In normal cases, they get rid from the swelling in very less time. In case of complications, they approach the traditional healers for systematic treatment. Amarbel (*Cuscuta* sp.) is a well known parasitic herb in Chhattisgarh. I have mentioned in previous articles, that the natives and traditional healers of Chhattisgarh have rich knowledge about various uses of Amarbel. The female herb collectors of Dongargarh region use the whole herb juice of Amarbel in combination with Doomar (*Ficus glomerata*) fruit juice, internally in treatment of intestinal worm. When I asked the traditional healers of this region about this unique use, they replied that the decoction of Amarbel herb also gives promising results. Both uses flush out the worms effectively in very less time. In treatment of Malarial fever, the female herb collectors of Dongargarh region use the roots of Adusa (*Adhatoda vasica*). The roots are boiled in water and decoction is prepared. This decoction is taken twice a day as treatment. Many senior herb collectors take the decoction of Kalmegh (*Andrographis paniculata*) at morning and Adusa decoction at evening. The use is continued till complete cure. Both herbs are in the list of medicinal herbs the female herb collectors collect for commercial trade. When we started discussion on herbs and herbal combinations useful in treatment of Adhasisi (Migraine), the female herb collectors informed that they use dry fruit powder of Aonla (*Emblica officinalis*) externally during attack in order to reduce the intense pain. By mixing fruit powder in Rose water (Gulab Jal), an aqueous paste is prepared and applied on affected parts. Its popularity among them clearly indicates its efficacy. Aonla fruits of wild origin are preferred by them. In treatment of Diarrhoea with fever, the female herb collectors use the bark and seeds of Korla (*Wrightia tinctoria*) with Gud (Jaggery). The bark and seeds are mixed in equal proportion. Gud is added for taste only. This combination is taken many times a day. In case of normal Diarrhoea, they manage the trouble with home remedies. Although, these

collectors approach to the traditional healers in treatment of Mirgi (Epilepsy) but they are aware that at initial stages, the internal use of combination of Karanj (*Pongamia pinnata*) seeds with Gud, shows good results. Very old or stored seeds are not preferred by them. Karanj is well known herb in this part of Chhattisgarh. The female herb collectors are aware of many uses of Kesur (*Scirpus grossus*). The women having the problem of habitual abortion are suggested by the herb collectors to take the tuber of Kesur internally. It is also used internally to increase the flow of milk in breast. Many female herb collectors prepare a special herbal oil by boiling Kaiphal (*Myrica esculenta*) seeds in base oil. This herbal oil is used in treatment of earache. I have noted that very few herb collectors are aware of this herbal oil.

Most of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. Very soon I am planning to visit this region again in order to gather more information. I will give the details in coming articles.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 113. Rukhalu (*Remusatia vivipara*, family Araceae).

The close relative of Bach (*Acorus calamus*), this herb also prefers the same habitat to grow but not tolerate the marshy conditions upto long time. The herb collectors of Amarkantak and Southern Chhattisgarh collect its roots in bulk for commercial trade. You will be surprised to know that in official records its name is not mentioned as medicinal herb having any demand.

Many herb traders informed that these roots are used as adulterant in many popular roots. They do not want to disclose the names of popular roots but they emphasized that this adulteration do not cause any harmful effect while using the popular roots. I personally feel that it is very essential to find out the names of these popular roots. As you know, earlier the roots of Sadasuhagan (*Vinca rosea*) were added with popular roots of Sarpagandha (*Rauvolfia serpentina*). At that time, no one was aware of miraculous healing properties of Sadasuhagan. When the researchers, analyzed this adulterant they found that this root is itself a valuable root, that can be used in treatment of many common diseases. At that time, the traders were giving the same explanation that the adulterant is not a toxic material. Directly or indirectly Rukhalu is in trade form Chhattisgarh and generating income for the state. Many traditional healers are aware of its adulteration. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding the medicinal properties and uses of this herb. It is mentioned that the roots of this herb can be used in treatment of Itch and the juice with cow urine is considered to be alexipharmic. Its use in treatment of Itch is still popular among the healers. Many healers use the root extract in combination with Kalihari (*Gloriosa superba*) root extract, in treatment of Safed Daag (*Leucoderma*) externally. According to the healers, the addition of Rukhalu roots increase the efficiency of Kalihari roots. During the ethnobotanical surveys I have noted that the traditional healers of Chhattisgarh specialized in treatment of Mirgi (Epilepsy) add this herb in popular herbal combinations used externally in treatment. The herbal combination is put in fire and the patients are advised to inhale the fumes. The close relative of Rukhalu i.e. Bach, is also used for this purpose.

Through the on-going surveys, I am trying my best to gather more information on various aspects of this herb particularly to identify the popular roots in which Rukhalu roots are added as side effect free adulterant (?). I will give the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Raipur region.**

I was not expecting a lot of information from the female herb collectors of Raipur region but when I started interactions surprisingly I got many valuable knowledge regarding traditional medicinal uses of common herbs. I am giving the details in present article.

Alsi (*Linum usitatissimum*) is a popular oilseed crop in Chhattisgarh. It is cultivated in winter season. I have mentioned in previous articles that the natives and traditional healers have in depth traditional medicinal knowledge about Alsi. The female herb collectors of Raipur region are also aware of many traditional uses of Alsi. They use it internally in treatment of Pathri (Renal Calculi). Alsi seeds are used for this purpose. In treatment of Diarrhoea, the herb collectors use the decoction of Jam (*Psidium guajava*) leaves. The decoction is taken internally many times a day. This was surprising information for me, because earlier I was aware of use of same decoction in treatment of mouth related troubles. It is very useful in treatment of stomatitis. The patients are advised to gargle with this decoction. According the female herb collectors, it is very promising treatment in case of Diarrhoea also. The names of different parts of Dhanbaher (*Cassia fistula*) are present in the list of medicinal herbs, the female herb collectors of Raipur region collect for commercial trade. Like the natives of other parts of Chhattisgarh, female herb collectors of this region are also aware of use of Dhanbaher bark in form of decoction in treatment of Tonsillitis. The collectors informed that in order to get more promising effects one must add Dhania (*Coriander*) seeds in this decoction. This was new information for me. Later when I tried it with my family friends, I got good results. The female herb collectors informed that every time fresh decoction must be used in order to get real effects. I have found this information true while using the decoction. Now I am planning to inform the natives of other regions of Chhattisgarh about the addition of Dhania seeds. The female herb collectors of Raipur region suggest the female patients having the problem of habitual abortion to keep a cloth piece soaked with Indra Jau fruit (*Wrightia tinctoria*) extract inside the vagina. According to them, it is simple but very promising remedy to avoid the chance of abortion. The traditional healers of Raipur region showed ignorance to this use at first but later when they tried it in their practice, they were amazed to see the miraculous effects of this simple treatment. Many senior herb collectors informed that the flowers of Amli (*Tamarind*) can be used to treat the Diarrhoea successfully. The flowers are roasted with the help of cow ghee and taken internally as treatment. Kukurmuttera or Kukronda (*Blumea lacera*) is well known wasteland herb in this part of Chhattisgarh. The female herb collectors informed that the internal use of freshly extracted juice of its leaves cures the problem of intestinal worms. As this herb grows as winter season herb, there is a limitation in its use upto winter season only. In other parts of the year, they use other herbs in same way.

The increasing urbanization and industrialization in Raipur region, are resulting in destruction of natural forests. Due to attractive wages, now the youths are migrating to this metro city. The female herb collectors are in worry that possibly tradition of herb collection will end with them. The young generation is not taking interest in this traditional business. This is not a good sign.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 168. Sun Ke Sag.

According to the reference literatures, Sun (*Crotalaria juncea*) is a well shrub cultivated throughout India. Its stem fibre is used for unsized twine, fishing nets, cot stringing, mating, coarse canvas, bags and ropes. Sun is well known herb in Chhattisgarh. The natives use its flowers to prepare Sun Ke Sag (Curry). It is consumed with taste in many parts of Chhattisgarh. The traditional healers are aware of its health benefits. To stop all types of bleeding, internal as well as external, the healers recommend this preparation to the patients. This preparation is also considered promising for the heart patients.

Material Required: Sun flowers, Lason (Garlic), Hardi (Turmeric), Tel (Oil), Namak (Salt), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. The flowers and all other ingredients are added in pan and roasted well. The curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Sun, I suggest you to read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 112. Syala (*Vallisneria spiralis*, family Hydrocharitaceae).

Like terrestrial flora, Chhattisgarh is rich in diverse aquatic flora also, but unfortunately not much work has been done to identify this flora and to document its traditional medicinal knowledge. Among few aquatic species, Syala is one, I know and can identify it. During the ethnobotanical surveys conducted in different parts of Chhattisgarh I have noted that in many regions the senior natives and traditional healers are not only aware of its medicinal properties but also they are using it in treatment of many common diseases. The traditional healers of Chhattisgarh Plains use this aquatic herb after shade drying in treatment of Safed Daag (Leucoderma). The whole herb is crushed into powder and with the help of cow urine an aqueous paste is prepared. This paste is applied many times a day as treatment. In general, the healers use this herb as supplement treatment during main treatment. In main treatment they use many herbs and herbal combinations internally. I have mentioned in previous articles that the senior natives are aware of its use as Sag (Curry). Its leaves are used in this way. Like the curry prepared from *Oxalis corniculata*, this curry is also used as stomachic. Unfortunately, the natives of young generation are not showing much interest in this preparation and as a result its popularity is decreasing day by day. This observation forced me to document this traditional medicinal knowledge without any delay. The use of Syala in treatment of Leucoderma has yet not been documented.

The reference literatures are full of information regarding botany of this herb. I am not giving the details in this article. According to these literatures, Syala is grown in many parts of India for decoration and it serves as oxygenator. Its leaves are rich source of Phosphorus, Iron and Calcium. Officially, the name of this aquatic herb is not present in the list of medicinal herbs having any demand in national markets. Through the on-going ethnobotanical surveys, I am trying my best together more information on traditional medicinal uses of this herb in Chhattisgarh. I will give the details in future articles.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with the Female herb collectors of Gariaband region.

Through the interactions with the female herb collectors of Gariaband region of Chhattisgarh, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Gariaband region informed about the new use of Jatamansi (*Nardostachys jatamansi*) as eye tonic. They prepare special Surma by using this herb. This Surma is applied in eyes twice a day. According to them, its regular use manages the problem of poor sight effectively. Although Jatamansi is not present in the list of medicinal herbs the female herb collectors of Gariaband region collect for commercial trade but surprisingly they are aware of its many promising uses. Many senior herb collectors informed that the Sirka (Vinegar) prepared from Tari or Tadi (*Borassus flabellifer*) is very useful in treatment of spleen related troubles particularly in case of enlarged spleen. This Sirka is taken internally as medicine upto long time. Tari is well known herb in Chhattisgarh. I have mentioned in previous articles that many species of Tulsi (*Ocimum* sp.) grow naturally in Chhattisgarh. All species are collected by the herb collectors and are in routine trade. *Ocimum sanctum* is planted in every home for religious purpose. The natives and traditional healers have in depth traditional medicinal knowledge about different uses of Tulsi. The female herb collectors of Gariaband informed that they use the seeds of *Ocimum sanctum* in treatment of Diarrhoea. They are also aware of its other uses. In wild regions, the natives plant Thura herb (*Euphorbia neriifolia*) around the crop fields as live fence. The female herb collectors are aware of its purgative properties. They dip the Gram (Chana) seeds in the fresh latex (Doodh) of Thura and after few hours, take few seeds internally. This use is considered as a boon for the patients having chronic constipation. According to the female herb collectors, its use once in a month flushes out all the toxic material from human body. Although now a days it is banned to collect and sell the Hathi Dant (Ivory) but during discussion many senior collectors informed me that in powder form Hathi Dant can be used as promising memory enhancer. It is taken internally with Shahad (Honey) for this purpose. Now it has become a thing of past but from documentation point of view it is an important information. I have mentioned in previous articles that the natives of many regions prepare Sirka (Vinegar) using Chirai Jam (*Syzygium cumini*) fruits. The female herb collectors prepare a special dish by dipping many small pieces of immature fruits of Papita (Papaya) in Chirai Jam Sirka. The pieces are dipped upto three days. After this duration, the soaked pieces are taken internally, twice a day. This dish is specially recommended to the patients having the problem of Bavasir (Piles). When I discussed it to the traditional healers of Gariaband region, they confirmed its miraculous effect in treatment. Many herb collectors use the dry fruit pieces of Papita to prepare a special Herbal Mala. The small children are advised to wear this Mala. It is common belief among them that this Herbal Mala protects the children from evil spirits. In treatment of Insomnia, the female herb collectors use the seeds of Petha (*Benincasa hispida*).

The seeds are powdered and taken internally with Shahad (Honey). Within few days the patients get rid from the trouble of Insomnia. Many female herb collectors prepare a special herbal oil using the freshly collected roots of Parval (*Trichosanthes dioica*). The roots are boiled in base oil. When all watery contents evaporate, boiling is stopped and oil is kept for future use. This oil is used in treatment of rheumatic pains. It is applied externally on painful parts. Parval is a popular vegetable crop in Chhattisgarh.

Although the above mentioned traditional medicinal uses are less in number but these information are of great importance. I personally feel that there is need to document such important information on traditional medicinal uses without any delay.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 111. Atrilal (*Peristrophe bicalyculata*, family *Acanthaceae*).

For the first time, I got information about this herb from the honey collectors of Southern Chhattisgarh. The honey collectors apply the fresh juice of whole herb on body and collect the honey. According to them, its specific smell and taste repel away the bees, I have mentioned in previous articles, that the honey collectors of many parts of Chhattisgarh use the whole herb juice of Jangli Chaulai (*Amaranthus spinosus*) in same way. The use of Atrilal for this purpose has yet not been reported in reference literatures. The traditional healers of Chhattisgarh are aware of this unique use. According to them, this use is useful in treatment of many skin related troubles. Although, Atrilal is a common herb in Chhattisgarh but the healers of the state are not much aware of its traditional medicinal uses. In reference literatures related to different systems

of medicine, I have yet not found much details regarding its medicinal properties and uses. According to these literatures, the plant macerated in an infusion of rice is said to be antidote to snake poison. Few years back when I asked the traditional healers specialized in treatment of snake bites, about the reported use of this herb, they showed ignorance. Many of them assured me to try this herb in future. Later, when I visited to them again, they informed that at initial stages it can be used successfully but instead of its reported way of use, it must be used in form of decoction. I personally feel that the systematic scientific research on this aspect can give the clear picture. The healers refused to adopt it in their routine practice because they are satisfied with the herbs and herbal combinations, they are using since time immemorial. Atrilal is not its local name. In different parts of Chhattisgarh it is known through different names but it is also true that in most of the regions the natives have kept it in the category of wild herb (Van ghas).

Officially, the name of this herb is not present in the list of medicinal herbs of Chhattisgarh, having any demand in national markets. The herb collectors and traders confirmed this information. The fly repellent property motivated me to evaluate the insect repellent properties of this herb. This is the reason I have added its name in the lists of my favorite herbs. I will give the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the female herb collectors of Bhanupratappur region.**

Through the interactions with the female herb collectors of Bhanupratappur region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Bhanupratappur region have in depth traditional medicinal knowledge about different parts of Bambri (*Acacia nilotica*). The names of different parts of Bambri are present in the list of medicinal herbs, the female herb collectors collect for commercial trade. In treatment of carbuncle, they use the combination of Kenchuli (Shredded out skin of snake) in combination with Bambri Gond (Gum). The combination is applied externally on carbuncle. The use is continued till complete cure. It is considered as simple but promising use. To nullify the bad effects of dog bite, after systematic treatment, the female herb collectors use the juice of Bambri leaves. The juice is taken upto three days. After systematic treatment, to nullify the effect of snake poison, many herbs collectors consider it equally effective. When I asked the traditional healers of Bhanupratappur region, they confirmed its promising effects and suggested that by adding cow ghee in Bambri leaves, this combination can be made more promising. In treatment of Dysmenorrhoea, the female herb collectors use Bambri based herbal combination. In this combination Bambri pods, inflorescence of Ama (*Mangifera indica*), Semal Chhali (*Bombax ceiba* bark) and Lasora seeds (*Cordia dichotoma*) are mixed in equal proportion. All herb parts are dried in shade and crushed into fine powder. This powder is taken internally with a glass of lukewarm milk as treatment. They have deep faith in this combination. The use is continued till complete cure. According to them, within a week they get rid from this trouble. In treatment of mouth related troubles, they mix the bark of Bambri and Chirai Jam (*Syzygium cumini*). Both barks are mixed in equal proportion and boiled in water. When half quantity (of initial quantity) of decoction remains, the boiling is stopped and the patients are advised to gargle with this decoction. Many herb collectors add Fitkari (Alum) in it, in order to make the combination more useful. Like other parts of Chhattisgarh, Gonda (*Tagetes erecta*) is also a well known ornamental herb in this part. The female herb collectors informed about its many traditional medicinal uses. According to them, the internal use of leaf juice in combination with Kali Mirch (*Piper nigrum*) and Namak (Salt), helps in curing the trouble of Bavasir (Piles). They are in favour of its long term use. This combination is not considered useful in treatment of bleeding piles. In treatment of Dama (Asthma), they use the flower bud of Gonda. The buds are collected and after shade drying converted into powder. This powder is taken internally with Dahi (Curd). It is used as both curative and preventive. This was new information for me. The herb collectors use the cow ghee in treatment of troubles related to dentition in small children. Ghee is massaged on gums gently. It is used as home remedy and other natives are also aware of this use. They prepare a special oil by boiling the Gomchi roots (*Abrus precatorius*) in base oil. The freshly collected roots are dipped in water for three hours and after adding base oil, the combination is boiled. When all watery contents evaporate the boiling is stopped and oil is kept for future use. This oil is considered useful in hair care. The traditional healers of this region are also aware of this oil. They informed that this oil can be used in treatment of skin related troubles.

The above mentioned traditional medicinal uses surprised me and also the traditional healers of Bhanupratappur region. I am feeling proud to document this important knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 110. Dahipalas (*Cordia macleodii*, family Ehretiaceae).

According to the reference literatures Dahipalas is a tree distributed in Andhra Pradesh, Madhya Pradesh and Karnataka. Its wood is used for agricultural implements, carving, turnery and furniture. In reference literatures related to different systems of medicine in India, I have yet not found any detail regarding medicinal properties and uses of Dahipalas. The traditional healers of Chhattisgarh are aware of its many uses but they use it less frequently in their routine practice. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this herb. I am giving the details in present article.

I have seen the dry bark of Dahipalas with the traditional healers of Chhattisgarh specialized in treatment of Jaundice (Pelea). According to the condition of the patients, they use the bark alone or in combination with other herbs. In general, the bark is added in powder form but many healers consider its decoction form more promising. The traditional healers of Southern Chhattisgarh use its bark decoction externally to wash the open wounds. The female patients

having the problem of Leucorrhoea are advised to wash the vagina with this decoction many times a day. In treatment of Jaundice, they use the concentrated decoction whereas for external use diluted decoction is used. In Chhattisgarh Plains, the diluted decoction is used many times to wash the cattle in rainy season in order to repel away the flies.

Officially, the names of Dahipalas plant parts are not present in the list of medicinal herbs having any demand in national markets. But the herb traders and collectors informed that its bark is in trade, although its demand is occasional. The occasional demand clearly indicates about its use as alternative to some promising hi-value herb and when the collection of that particular herb decreases, the demand of Dahipalas increases. This is a matter of surprise that why the details regarding this useful herb have not been mentioned in reference literatures. Many of the above mentioned traditional medicinal uses of Dahipalas in Chhattisgarh are new and unreported information. I will give more details after completing the on-going ethnobotanical surveys focused on less known herbs like Dahipalas.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Bhopalpatnam region.**

Bhopalpatnam region of Chhattisgarh is rich in natural bio-diversity. Many rare and valuable herbs have been reported from this region. The natives and traditional healers of this region have in depth traditional medicinal knowledge about common herbs and animals. With the great expectation, I interacted with the female herb collectors of Bhopalpatnam region. I am giving the details in present article.

The name of Dhera or Ankol (*Alangium salviifolium*) is present in the list of medicinal herbs used by the female herb collectors of Bhopalpatnam region in treatment of snake bite. The bark of this herb is used for this purpose. This use acts as first aid measure before arrival of the traditional healers for systematic treatments. The freshly collected bark is converted into aqueous paste and applied on affected part as treatment. The traditional healers of this region confirmed its miraculous effects. They informed that the decoction of Ankol bark can be used internally as systematic treatment but as first aid measure, the external application of bark is good treatment. Ankol is well known herb in this part of Chhattisgarh. I have mentioned in previous articles that the natural forests of Bhopalpatnam region are rich in Curcuma diversity. The important observation is that the natives and healers are well aware of medicinal properties of different Curcuma species. The female herb collectors of Bhopalpatnam region use the rhizomes of Ama Haldi (*Curcuma amada*) in powder form as herbal tooth powder. It is considered as useful remedy in treatment of Pyorrhoea. In treatment of Tonsillitis, the herb collectors use the decoction of Amli (Tamarind) leaves. The patients are suggested to gargle with this decoction. Its popularity among them clearly indicates its efficacy. The natural forests of this region are well known for rich population of Amli trees. They use the freshly extracted juice of Chhui-Mui (*Mimosa pudica*) herb in treatment of old wounds. Few drops of juice are applied on wounds many times a day. The healers of this region confirmed its miraculous effect. Chhui-Mui grows as wasteland herb in this region. The natives and healers have in depth traditional medicinal knowledge about Chhui-Mui. During interaction, I got new information about the use of Singhara (*Trapa natans*). The female herb collectors informed that the combination of Singhara fruit and Dahi (Curd) is very useful in treatment of Diarrhoea. According to them in very few doses, this combination roots out the trouble. Singhara is an aquatic herb. Like the natives and healers of other parts of Chhattisgarh, the female herb collectors of Bhopalpatnam region are aware of many common use of Hulhul (*Cleome viscosa*). They prepare a special decoction by boiling the leaves in water. This decoction is used to wash the anus, in case of Piles. It is considered as a boon for the patients having the problem of bleeding piles. It stops the bleeding effectively in very less time. In treatment of pain, in any part, the female herb collectors use the seeds of Hingot (*Balanites aegyptiaca*) in interesting ways. The seeds are burnt and fumes are inhaled in case of internal pain whereas in case of external pain, the fumes is directed to the painful parts.

I am aware that due to language problem it is very difficult to get complete information on many aspects. I am trying to learn and understand this local language. You will find more information about the herbs of this region, in my coming articles.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 168. Sonth Ke Chutney.

According to the senior traditional healers of Chhattisgarh, in early days they were using this Chutney in treatment of health related troubles due to change in weather. In early days, every traveler was keeping and using this Chutney, during travel in order to remain fit. Now very few healers and senior natives are aware of this preparation. This is the reason now it has come in the category of medicines and its name is not present in the current list of Herbal dishes of Chhattisgarh. Although it is known as Sonth (Dried Ginger) Ke Chutney but as ingredients Zeera (Cumin) and Harra (Terminalia chebula) fruit powder are also added. All the ingredients are added in equal proportion. Many traditional healers use this preparation in treatment of fevers. The common natives are not aware of this Chutney. As travel borne troubles are still common among us, I personally feel that there is a need to popularize the use of this preparation among the common natives.

Material Required: Sonth, Zeera and Harra, Noon (Salt), Masale (Spices).

Method of Preparation: All ingredients are mixed and with the help of clean stone and water, crushed into fine paste. This fine paste is known as Sonth Ke Chutney.

For the botany, traditional and reported medicinal uses of Sonth, Zeera and Harra, please read the previous articles.

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**Medicinal herbs of Chhattisgarh, India having less known traditional uses. 109.
Shankhaphool (*Conscora decussate*, family : *Gentianaceae*).**

Although Shankhaphool or Shankhaphuli grows as wasteland herb in almost all parts of Chhattisgarh but surprisingly, very few traditional healers are aware of its medicinal uses and properties. In reference literatures related to different systems of medicine in India also, I have yet not found any detail regarding its medicinal uses. In many books, it is mentioned that the fresh juice of whole herb is recommended in epilepsy, insanity and nervous debility, but the details regarding method of use and precautions are not available. The traditional healers of Chhattisgarh are aware of its use in epilepsy and insanity but they use it externally. The whole herb is collected before flowering and dried in shade. After drying, it is burnt and the patients having acute attack are suggested to inhale the fumes. It is used in same manner like Bach (*Acorus calamus*) and Jatamansi (*Nardostachys* sp.) but as Bach and Jatamansi are available easily, this herb is used very rarely. The traditional healers of Chhattisgarh Plains informed that the internal use of this herb causes many side effects. This is the reason they avoid its use or add it in herbal combinations having other herbs to nullify its harmful effects. Among the cattle owners this herb is popular as fly repellent herb. During rainy season they burn the combination of many herbs in cattle shed in order to repel away the flies. The name of Shankhaphool is present in the list of herbs.

Officially, the name of Shankhaphool is not present in the list of medicinal herbs having any demand in national markets. The herb traders and collectors have confirmed this observation. With the help of innovative herb growers of Chhattisgarh, I am trying to evaluate the insect repelling powder of this herb in commercial cultivation of Indian medicinal and aromatic crops. We are getting promising results. I will write the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the female herb collectors of Dondi-Lohara region.**

Through the interactions with the female herb collectors of Dondi-Lohara region, I got opportunity to collect many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of this region informed me about many traditional uses of Supari (*Acacia catechu*). As you know, in India its nuts are chiefly used as masticatory. The female herb collectors burn the nuts and collect the ash. This ash is used in place of routine tooth powder. According to them, the use of ash upto long time as herbal tooth powder roots out many mouth related trouble. It is considered as promising in treatment of Pyorrhoea. Many herb collectors mix the ash with routine tooth powder and use it in same manner. The female herb collectors are also aware of use of its flowers. The internal use of flowers is considered as promising in treatment of Diarrhoea specially in treatment of Diarrhoea common in small children. The name of Satavari or Dasmool (*Asparagus racemosus*) is present in the list of medicinal herbs the female herb collectors collect for commercial trade. They are aware that it is promising tonic specially for the women. Many senior collectors informed that the roots powder

of Dasmool can be used as memory enhancer and I have observed that they give it with lukewarm milk to their school going children. This was new information for me. They use the flowers and seeds of common medicinal tree Sirsa (*Albizia lebbeck*) in unique ways. The patients having the problem of Adhasisi (Migraine) are suggested, during the attack, to inhale the smell coming from Sirsa flowers. According to the herb collectors, the smell helps in reducing the intense pain. They use the freshly collected seeds to prepare the special oil. The seeds are boiled in base oil and when all watery contents evaporate, boiling is stopped and the oil is kept for future use. This oil is considered as a boon for the patients having the problem of Safed Dag (Leucoderma). It is applied on white spots many times a day. For boiling Sirsa leaves, Til (Sesame seed) oil is used as base oil. The traditional healers of Dondi-Lohara region are also aware of this herbal oil. They informed that this oil is very promising in early stages. In advanced stages, it can be used as supplement to main treatment. The main treatment is given in form of herbal combination internally. As birth control measure, the female herb collectors use many herbs and herbal combinations. They informed that the internal use of Nirgundi (*Vitex negundo*) seeds develops sterility in human body. Semi (*Dolichos lablab*) is a popular vegetable in this parts of Chhattisgarh. In treatment of injuries, the herb collectors use the seeds of Semi. The seeds are applied in form of aqueous paste. It is considered as promising styptic. Many times they keep the dry seeds with them in order to use it in case of injuries during visits to natural forests. They are also well aware of use of other common herbs for this purpose. I have mentioned in previous articles that the natives and traditional healers of many regions of Chhattisgarh use the decoction of Dhanbahar (*Cassia fistula*) bark in form of gargle, in treatment of Tonsillitis. The female herb collectors of Dondi-Lohara informed that the bark of Harshringhari (*Nyctanthes arbor-tristis*) can also be used for the same purpose, in same manner.

All the above mentioned traditional medicinal uses of common herbs are of great importance. I am feeling satisfied to document this valuable knowledge.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 108. Van Gobhi (*Elephantopus scaber*, family Compositae).

Van Gobhi occurs as wasteland herb in Chhattisgarh. The traditional healers of Chhattisgarh use this herb less frequently in treatment of common diseases. Its roots and leaves are used as medicine by them. The healers use its roots more frequently. The roots are used in form of decoction in treatment of troubles related to urinary system. It is considered as promising remedy for Dysuria. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that the traditional healers of Chhattisgarh Plains are more aware of its medicinal uses. I have mentioned in previous articles that after heavy physical exertion in order to solve the problem, the natives of many regions take bath with special herbs and herbal decoction. Gobhi is one of these herbs. I have seen its practical use during surveys in Gandai-Salewara region. The traditional healers of Southern Chhattisgarh use its roots in combination with other herbs in treatment of swellings. It is used both internally as well as externally. This is a matter of surprise that the traditional healers of Chhattisgarh are not much aware of more uses of this herb.

According to the reference literatures, botanically Van Gobhi is an annual erect dichotomously branched herb; Stems hairy; Leaves chiefly radical, scabrous, crenated, cuneate, very much narrowed at the base, those of the stem, lanceolate; Floral leaves broadly cordate-ovate, acuminate, hoary; Heads on long stalks; Flowers pale red. The farmers in many parts of Chhattisgarh are enjoying its presence in crop fields. The herb collectors purchase this herb from the farmers after uprooting. This is the reason it is considered as medicinal weed in these parts. Although officially the name of Gobhi is not present in the list of herbs traded from the state but according to the herb collectors and traders, it is in routine trade. Mostly it is supplied to pharmaceutical companies at national level. The above mentioned traditional medicinal uses are not enough to establish this herb as potential medicinal herb in Chhattisgarh but its utility as medicinal weed can be popularized among the farmers, so that they can earn an additional income from this waste plant.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Female herb collectors of Dalli-Rajhara region.**

Through the interactions with the female herb collectors of Dalli-Rajhara region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Dalli-Rajhara region are aware of many traditional uses of different parts of Mehndi (*Lawsonia alba*). I have observed that many of them use the flowers with stored grains and woolen cloths in order to repel away the insects. The flowers are dried and kept inside the small cloth bags. These cloth bags are kept with the stored grains and woolen cloths. I have mentioned in previous articles that the natives of many regions use Neem, Bach (*Acorus calamus*) etc. for the same purpose. The use of Mehndi flower was new information for me. They change the old bags every year. The names of different parts of Mahua (*Madhuca latifolia*) are present in the list of medicinal herbs, they collect for commercial trade. In treatment of snake bite, they use the combination of Mahua flowers and Kuchla (*Strychnos nuxvomica*) seeds, as first aid measure. Both herb parts are mixed in equal proportion and in form of aqueous paste applied on affected part. It is considered as one of the promising first aid measures. The traditional healers of Dalli-Rajhara have also confirmed its miraculous effects. This combination is not used in case of scorpion sting. Methi (*Fenugreek*) is a popular leafy vegetable in this part of Chhattisgarh. Many senior female herb collectors use its leaves in combination with Sirka (Vinegar), in form of aqueous paste, in treatment of swellings. Like Methi, the leaves of Muscaini are also used as curry. Muscaini grows as wasteland and field weed in rainy season. The female herb collectors are aware of its many medicinal properties and uses. They use it specially in treatment of Kidney related troubles. I have mentioned in previous articles that the traditional healers of Chhattisgarh are aware of many herbs and herbal combinations that can be used to solidify the Para (Mercury). The female herb collectors of Dalli-Rajhara informed that the whole herb of Muscaini can also be used to solidify the Mercury successfully. In treatment of troubles related to urinary system, as home remedy the female herb collectors use the aqueous extract of Lasora (*Cordia dichotoma*) leaves. It is considered very useful in treatment of Dysuria. The traditional healers of this region are aware of these uses. They added that the aqueous extract is a boon for the patients having the problem of Syphilis. I was aware of external uses of Shredded out skin of snakes (i.e. Kenchuli)

but the female herb collectors are aware of its internal use. According to them, the ash collected after burning the Kenchuli is taken internally with Chana (Gram seeds) and cow ghee as treatment to Leprosy (Kodh). You will be surprised to know that the traditional healers of this region were not aware of this unique traditional knowledge. Later, they tried it and found it really very promising. According to them, this combination can be used as supplement to main treatment. In treatment of earache, as home remedy, the female herb collectors use the freshly extracted juice of Sadasuhagi (Vinca rosea). They are aware of its usefulness in treatment of other troubles. They dip the leaves overnight in water and next morning extract is taken internally. It is considered as one of the promising treatments of chronic constipation.

The expressions of surprise on the face of the traditional healers, after knowing the in depth knowledge, the female herb collectors of Dalli Rajhara region are having, are enough to convince the researchers engaged in mere sample, surveys for documentation of traditional knowledge, that now the time has come to consider the importance of each and every component specially the importance of female herb collectors.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the female herb collectors of Ambikapur region.

Like the female herb collectors of Pendra region, the herb collectors of Ambikapur region also face the problem of wild animals specially Bhalu (Bear). They have developed many ways by which they try to avoid any conflict. Through the interactions with them, I have collected many

valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors are aware of many traditional medicinal uses of Bhengra (*Eclipta alba*), a medicinal weed that grows as weed in rice fields. Bhengra is present in the list of medicinal herbs, they collect for commercial trade. They are well aware of its use in hair care. They informed about the unique use of whole herb juice of Bhengra. According to them, its internal use nullifies the harmful effects of Opium. Opium consumption is bad habit and is popular among the youths. For systematic treatment, the traditional healers of this region also use whole herb juice of Bhengra. The female herb collectors of Ambikapur region use the whole herb of Bhang (*Cannabis sativa*) in treatment of new wounds. The whole herb in form of aqueous paste is applied on wound. In case of injuries, they also use this paste to reduce the intense pain. In treatment of swellings, the female herb collectors use the leaves of medicinal weed Makoi (*Solanum nigrum*). The leaves in form of aqueous paste is applied externally on swellings. The use is continued till complete cure. In case of complication, they approach to the traditional healers for systematic treatment. They informed me about many traditional medicinal uses of Semar Gond (*Bombax ceiba*), Safed Musli (*Chlorophytum* sp.) and Kali Musli (*Curculigo orchioides*). All these herbs are among the herbs having regular demand in markets. According to the female herb collectors, they are collecting these herbs since generations without any problem. They use Semar Gond (Gum) in form of very fine powder as tooth powder. The regular use of this tooth powder helps in making the loose teeth stronger and free from all troubles. In the present age of fluoride toothpaste, it is really great observation to hear and observe the use of herbal tooth powder prepared from herbs present in surroundings. They are aware of aphrodisiac properties of Safed Musli. They informed that the regular use of Safed Musli removes extra heat from human body and helps in maintaining the heat balance inside the body. I am not aware whether their explanation is scientific or not but their deep faith in this herb, clearly indicates its popularity among them. Although it is considered as male sex tonic but the female herb collectors of this region, consume it without any problem. Like Safed Musli, Kali Musli is also a common herb in this part of Chhattisgarh. The female herb collectors informed that, Kali Musli is a boon for the patients having the problem of Gout. It is taken internally. They also claimed that the use of Kali Musli; as medicine helps in reducing the high frequency of urination, a common trouble in Diabetes. The female herb collectors confirmed that in past few years, the demand of these herbs have increased many folds, but this increase in demand is not causing any serious threat on its natural population. During interaction, the herb collectors informed that Munj (*Saccharum munja*) can be used in treatment of Bavasir (Piles). The whole herb is burnt and patients are advised to expose the anus in fumes. It is considered as one of the promising treatments specially in treatment of bleeding piles.

The above mentioned information have been collected many years back. Very soon I am planning to visit the region again with the hope that the female herb collectors are still using these herbs and herbal combinations with same level of faith.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the female herb collectors of Mungeli region.**

Through the interactions with the female herb collectors of Mungeli region I got opportunity to collect many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

Urd (*Vigna mungo*) is under cultivation as pulse crop in this region. Although different plant parts of Urd are not present in the list of medicinal herbs, the female herb collectors of this region collect for commercial trade but they are aware of many medicinal properties and uses. They informed that fresh leaf juice of Urd herb collected before flowering is a boon for the patients having Leucoderma. The juice is applied many times a day on affected parts. According to them, at initial stages it shows good effects. They use the seeds of Urd in form of aqueous paste in hair care. The paste is applied on hairs and washed during bath with water. Many female herb collectors claimed that its long term use can produce a new flush of hair in hairless spots. Hence, it is very promising remedy for the natives having the problem of Alopecia. They emphasized on 'long term use'. When we started discussion on herbs and herbal combinations that can be used as Breast enhancer, I informed them about the information, I have collected from the natives and traditional healers of other regions. In reply, they informed about the unique use of Kadam (*Anthocephalus cadamba*) roots. The roots are collected and by crushing it with stone, converted into fine paste. This paste is applied externally on breast as breast

enhancer. This was new information for me. They further informed that although they are aware of many such herbs and herbal combinations but do not use it in routine life. I have mentioned in previous articles that the curry prepared from leaves of Karmatta (*Ipomoea aquatica*) is popular among the natives. The female herb collectors of Mungeli region are aware of its health benefits. They recommend it to the lactating women. According to them, its use as vegetable increases the flow of milk. Many female herb collectors informed that Kai (Lichen) can be used in dry form in treatment of Diarrhoea particularly in case of Diarrhoea in small children. This is considered as simple as well as useful treatment. I have mentioned in previous articles that in many parts of Chhattisgarh, Kai is used externally as aphrodisiac. The names of different parts of Kachnar (*Bauhinia variegata*) are present in the list of herbs collected by these herb collectors. Besides its other medicinal uses, they are aware of the use of Kachnar Bark in treatment of Nocturnal Emission (Night Pollution), a common trouble in young age. The bark is crushed into fine powder and given internally with lukewarm water as treatment. In treatment of Carbuncle, the female herb collectors use Gataran herb in unique way. The whole herb is collected and after drying in shade, the herb is put in fire and ash is collected. This ash is mixed in oil and applied externally. The popularity of this use clearly indicates its efficacy. Gataran is planted as hedge plant. Its fruits are in trade.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. The additional information on specific aspect like the medicinal uses of Karmatta leaves, helps in making the specific uses more promising.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 107. Dahia (*Strebulus asper* family : *Moraceae*).

Dahia is popular among the natives of Chhattisgarh for its delicious fruits and young twigs used as Dataun (Herbal Tooth Brush) to clean the teeth. Dahia is a large shrub or tree distributed in

drier regions of the country. Although this herb is present in Chhattisgarh but it is a matter of surprise that the traditional healers are not much aware of its medicinal properties and uses. Through the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have collected few but important information on traditional medicinal uses of this herb. I have noted that the healers of Chhattisgarh Plains and Northern Hilly region are more aware of its different uses. The traditional healers informed that the Dataun of Dahia is good for gum related troubles. Many healers suggest the patients to collect the Dataun and boil it in water to prepare the decoction. The patients are advised to gargle with this decoction. You will be surprised to know that this decoction is also used to dress the open wounds. According to them this decoction helps in increasing the rate of healing. In Chhattisgarh Plains the natives use the mild decoction to wash the hairs. This use kills the lice. While using this mild decoction they take special precaution to avoid its entry into the eyes. When I asked the healers about this use, they confirmed its promising effects but added that this decoction is not suitable for everyone. In such cases, the patients can use the decoction of Sitaphal (*Annona squamosa*) leaves in same manner. The traditional healers use its leaves in form of aqueous paste to suppress the boils. According to them, in combination with other herbs, this paste is used to suppurate the boils also. Its leaves are added as important ingredient in the herbal combinations used in treatment of Gout.

According to the reference literatures, Dahia (*S. asper* syn. *Epicarpurus orientalis*) leaves are used for polishing ivory, horns and wood in many parts of India. It is a host plant for lac-insect. Its bark yields fibre that can be used for making paper whereas wood is said to be an excellent fuel. Officially, the name of Dahia is not present in the list of medicinal herbs having any demand in national markets. The herb traders and collectors have also confirmed this information. I have yet not found any detail regarding medicinal properties and uses of this herb in reference literatures related to different systems of medicine in India. I am proud to write that many of the above mentioned traditional medicinal uses have not been reported in reference literatures. Its popularity among the healers clearly indicates its efficacy.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 167. Odabrini ke Sag.

Odabrini is a Hindi name of *Smithia conferta*, a common herb in Chhattisgarh. In many parts of Chhattisgarh, the natives use the leaves of Odabrini to prepare Sag (curry). I have observed that this Sag is popular among the poor natives and in general, the rich natives consider it as harmful herb. The traditional healers of Chhattisgarh are aware of its health benefits. They do not consider it as harmful herb. According to them, it is useful in normalizing the system of kidney. It is considered as a boon for the patients having the problem of Pathri (Renal Calculi).

Material Required: Odabrini leaves, Lason (Garlic), Tel (Oil), Noon (Salt), Other spices.

Method of Preparation: Oil is taken in pan and pan is kept on fire. The Odabrini leaves and all other ingredients are added. The mixture is roasted well. The curry is served hot with Bhat (Cooked Rice).

As in over dose, this curry causes loose motion, like curry prepared from Charota (*Cassia tora*) leaves, the healers instruct the patients to consume this delicious curry in small quantity. Aware of its laxative property, many times the traditional healers suggest the patients having the problem of constipation to use it.

For the botany, traditional and reported medicinal uses of Odabrini please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 106. Kamlawel (*Cylista scariosa*, family Leguminoaseae).

The traditional healers of Chhattisgarh specialized in treatment of different types of cancer use this herb as an ingredient in herbal combinations. For the first time, I have seen its practical use in such herbal combinations by Shri Vishal Bharat, a well known traditional healer of Bastar region. He was expert in treatment of different types of cancer. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have observed its natural occurrence in many parts, in isolated patches but surprisingly not got any additional information on its traditional medicinal uses. Kamlawel is not its local name. the herb vendors visiting to Chhattisgarh from neighbouring states particularly from western states, sell this herb particularly its roots in the name of Kamlawel. In reference literatures, it is mentioned that Kamlawel is useful in treatment of dysentery and leucorrhoea. Unfortunately, the traditional healers of Chhattisgarh are not much aware of these uses. Few healers are aware but they are using other herbs and herbal combinations for these troubles. The use of Kamlawel in treatment of cancer is not reported in reference literatures. Although the traditional healers of Chhattisgarh do not disclose that how it is used, but the information provided by them, is valuable from documentation point of view.

According to the reference literatures, botanically Kamlawel (*Cylista scariosa* syn. *Paracalyx scariosus*) is a woody twinner with slender pubescent branches; Leaves pinnately 3-foliolate; Leaflets ovate or rhomboid, acute, pubescent on both sides, laterals obliquely ovate; Flowers in axillary penduncled racemes or panicles; Corolla yellow, included; Pods small, obliquely oblong, enclosed in the calyx.

Officially, the name of Kamlawel is not present in the list of medicinal herbs of Chhattisgarh having demand in national market. Although in reference literatures on flora, only one species is mentioned but I have seen many variations in plant types of Southern Chhattisgarh and Plains. Through the regular visits to the traditional healers I am trying my best to gather the information

on method of its use in treatment of cancer. I feel it very necessary because this knowledge is limited to few healers and they are not eager to transfer it to the young generation.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 105. Ban Ramkelia (*Urena lobata*, family Malvaceae).

Ban Ramkelia is well known medicinal herb in Chhattisgarh. It grows as wasteland weed but the Chhattisgarh farmers have kept this weed in the category of medicinal weed. They are aware that many herb collectors and small traders have now started purchasing this herb. Although they are not much aware of its end uses but they do not want to miss the chance of earning anything from this waste-plant. The traditional healers of Chhattisgarh are aware of its few but important medicinal uses. The great observation is that these healers are still practicing the traditional knowledge about this herb. In reference literatures related to different systems of medicine in India, the use of its roots in treatment of rheumatism is mentioned. The traditional healers of Chhattisgarh use whole plant externally, in many ways for the same purpose. In combination with other herbs, they prepare an aqueous paste with Ban Ramkelia herb. This paste is applied externally on painful joints. The use is repeated many times a day. It is considered as one of the promising treatments. In other way, the whole herb of Ban Ramkelia, collected before flowering, is boiled in water and the patients having rheumatic pains are advised to expose the painful parts in medicated vapour. In treatment of Kidney pain, the traditional healers of Southern Chhattisgarh use its aqueous paste. The paste is applied externally.

According to the reference literatures, Ban Ramkelia is annual undershrub with slender branches; Leaves highly variable; lower sub-orbicular in outline, angular or shallowly palmately lobed; upper oblong-lanceolate, margins serrate; Corolla rotate, pink with a purple center, often hairy; Seeds reniform. As mentioned earlier, since few years its demand as medicinal herb has increased many times and the herb collectors and traders are showing interest in its bulk

collection. Possibly, the new research findings or industrial use have resulted in this increased demand. Its increasing demand is becoming beneficial for the farmers. I am trying my best to gather more information on this aspect.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the female herb collectors of Dhamtari region.**

Through the recent interactions with the female herb collectors of Dhamtari region, I have collected many valuable information on traditional medicinal uses of common herbs. I have noted that the female herb collectors of this region have deep faith in traditional knowledge. I am giving the details in present article.

The female herb collectors of Dhamtari region informed me about many traditional medicinal uses of Bakain (*Melia azedarach*). According to them its bark in powder form can be used as herbal tooth powder. Its regular use cures all the troubles related to gum and tooth. They gave emphasis that the bark must be converted into fine powder, so that it can not cause any abrasion during the use. Many female herb collectors informed that they add more herbs particularly the *Blumea lacera* roots in this powder to make it more effective. They are also aware of use of Bakain fruits in treatment of pain in spleen. The dry fruits are taken internally as treatment. Bakain is well known medicinal herb in this part of Chhattisgarh. When we started discussion on herbs and herbal combinations useful in treatment of Leucoderma, I informed them about many Bemchi (*Psoralea corylifolia*) based herbal formulations used by the natives and traditional healers of other parts of Chhattisgarh both internally as well as externally. In reply, many senior female herb collectors informed that the bark collected from old trees of Bahera (*Terminalia bellirica*) can be used successfully in treatment of Leucoderma at initial stages. The bark is used in form of decoction. Its regular use upto long time gives promising effects. They are not aware of its external use. This was new information for me. Like the herb

collectors of other parts the female herb collectors of this region also collect the medicinal mite *Trombidium* in rainy season. According to them, the collection period lasts to few weeks but in this short period they earn a lot. Many of them are aware of medicinal properties and uses of this mite but they warned that the pregnant women must not take this mite as medicine in any form because it can cause abortion. I have generated a lot of literatures on the medicinal uses of *Trombidium* but till this interaction I was not aware of this precaution. This is really an important information. Although as compared to national market price, they get very little from these mites but the female herb collectors are satisfied with this Golden business of few days. When I informed them that the oil from this mite can be used in enlargement of Breast or Breast enhancer, they showed great surprise. Bhata (Brinjal) is under cultivation as popular vegetable crop in this part of Chhattisgarh. Although it is good in taste but many herb collectors are aware that it causes many health related troubles. The female herb collectors of Dhamtari region consider the white round shaped Bhata fruit very promising in treatment of Piles (Bavasir). It is used internally as vegetable. According to them, the normal Bhata fruits do not possess this useful property. The names of different plant parts of Bael (*Aegle marmelos*) are present in the list of medicinal herbs, the female herb collectors of Dhamtari region collect for commercial trade. They prepare a special herbal oil by boiling the immature fruits of Bael in base oil. This oil is considered as a boon for the patients having ear related troubles. As base oil Sarson (Mustard seed) oil is used. The oil is applied into the ears many times a day. It also cures the problem of deafness.

As Dhamtari is well known herbal market for Southern Chhattisgarh, the female herb collectors of this region are relatively in good position as far as the price of collected produces is concerned, as compared to the female herb collectors of other region.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 104. Basanthi (*Reinwardtia indica*; family Linaceae).

In the name of Basanthi many herbs are present in Chhattisgarh. Although Reinwardtia is reported as wild plant in reference literatures on flora but in Chhattisgarh it is known more as ornamental herb planted in home gardens for attractive flowers. Its presence in wild is possibly an escape from home gardens. Although Basanthi is a well known herb but it is a matter of surprise that the natives and traditional healers of Chhattisgarh are not much aware of its medicinal properties and uses. During the ethnobotanical surveys conducted in different parts of Chhattisgarh I have noted that many herb vendors and collectors are aware of its medicinal uses. In rural areas, the decoction of Basanthi leaves is popularly used as veterinary medicine. It is used to wash the open wounds in order to speed up the healing process. The herb collectors when get injuries during visits, they simply apply its leaf juice in affected parts. It acts as styptic and also helps in healing. The use of Basanthi herb as ingredient in popular herbal combinations used in treatment of different types of cancer by the traditional healers of Chhattisgarh, motivated me to write a separate article on this herb. The traditional healers do not disclose the method of its use but Basanthi holds a reputed position as medicinal herb among them. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding its medicinal properties and uses.

According to the reference literatures, Basanthi (*R. indica* syn. *R. trigyna*; *Linum trigynum*) is a shrub; Leaves elliptic obovate or narrowly oblong-lanceolate, acute or rounded at apex, mucronate, glabrous; flowers with bright golden yellow petals; Fruits capsular, globose, shorter than sepals. Officially, its name is not present in the list of medicinal herbs having any demand in national markets. The herb collectors and traders also informed that they have tried to market this herb in nearby markets at metros but not got much success. Through the ongoing ethnobotanical surveys I am trying my best to gather more information on different aspects of this herb, in Chhattisgarh.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Female herb collectors of Mahasamund region.**

Through the interactions with the female herb collectors of Mahasamund region, I have collected information on some less known traditional medicinal uses of common herbs and herbal combinations. I am giving the details in present article.

The female herb collectors of Mahasamund region are aware of many promising uses of Bans (Bamboo sp.). They prepare a special herbal oil by boiling the Bans roots in base oil. The roots are boiled and when all watery contents evaporate the oil is kept for future use. This herbal oil is used for hair care. According to the herb collectors the regular use of herbal oil not only promotes the hair growth but also stops the premature hair fall. As base oil Til (Sesame seed) oil is used. They are aware of use of Bans grains also. According to them, the internal use of grains in small quantity helps in maintaining the normal body health. Later, the traditional healers of Mahasamund region confirmed that if taken judiciously, the grains have promising effects in developing natural resistance. Like the natives and traditional healers of other parts of Chhattisgarh, the female herb collectors of Mahasamund region are also aware of use of Bambri plant parts in treatment of Gonorrhoea but they use the seedless pods more frequently. The pods of Bambri (*Acacia nilotica*) are used in form of decoction. At initial stages, according to them, they try self treatment but in complicated cases the patients are suggested to approach to the traditional healers for systematic treatment. The name of Bambri plant parts are present in the list of medicinal herbs the female herb collectors collect for commercial trade. Like Bambri, Bandal (*Luffa echinata*) is also a valuable herb for them. They use its seeds in treatment of Gynaecological troubles. It is considered as a boon for the patients having Amenorrhoea. The powdered seeds are taken internally in combination with equal amount of sugar, many times a day. The use is continued till complete cure. Many senior herb collectors informed that internal use of Devnasan or Bach (*Acorus calamus*) at specific doses and at specific time acts as promising body tonic. You will be surprised to know that these female herb collectors take the rhizome powder of Bach specifically during solar and lunar eclipse. They are not aware of science behind its use at this specific period. I personally feel that this is the responsibility of our researchers to find out the scientific reason and explanation. The female herb collectors of this region collect Patal Kumhda (*Pueraria tuberosa*) in bulk for commercial trade. Many herb collectors informed that the internal use of Patal Kumhda is very effective in treatment of sterility problem in women. The issue less couples are advised to never miss the chance of its use during the growing season.

Although the above mentioned traditional medicinal uses are less in number but they are unique and most of these uses have yet not been reported in reference literatures. I am feeling proud to document this traditional knowledge.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 166. Makoi Ke Sag.

Makoi (*Solanum nigrum*) is a well known herb in Chhattisgarh. It grows as crop and wasteland weed in different parts of Chhattisgarh. The natives and traditional healers have in depth traditional medicinal knowledge about this herb. All parts of Makoi are used as medicine both internally as well as externally in treatment of many common and complicated troubles. Makoi Ke Sag (Curry) is prepared by using its leaves. This preparation is used for specific medicinal purpose. The common natives are not much aware of this preparation. The traditional healers consider this curry useful in treatment of spleen related troubles, particularly in treatment of enlarged spleen. The healers are not aware of its other health benefits. Due to this specific use, now its popularity is decreasing day by day. This is the reason I have decided to document the information about this curry without any delay.

Material Required: Makoi leaves, Tel (Oil), Lason (Garlic), Namak (Salt), other spices.

Method of Preparation: Oil is taken in pan and pan is kept on fire. Makoi leaves and all other ingredients are added. The mixture is roasted well and prepared curry is served hot with Bhat (Cooked Rice).

For the botany, traditional and reported medicinal uses of Makoi herb, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 103. Chitki (*Spergula arvensis*, family Caryophyllaceae).

Since student life I am reading about this herb, as common weed of crop fields. For the first time I saw this herb in Northern hilly region of Chhattisgarh in the year 1994. Although the reference literatures on flora do not support its natural occurrence in any form in Chhattisgarh but I have seen it as a weed in different parts. The Chhattisgarh farmers are not only aware of its presence in Chhattisgarh but also they are using it as styptic, in order to stop the bleeding from injured parts, as first aid measure like the leaves of *Cynodon*, *Tridax* and *Achyranthes*. Its local name Chitki also indicates that this herb is present in the state from very long time. Possibly, it was not present in the state when the researchers have surveyed the area many decades back. You will be surprised to know that during the ethnobotanical surveys in Bagbahera region I saw many natives using this herb as pot herb. Its use as pot herb is not mentioned in reference literatures. The traditional healers of Chhattisgarh specialized in treatment of Pathri problem (Renal Calculi) informed that this herb can be used alone in treatment. In general, the whole herb in form of dry powder is used. In the long list of herbs and herbal combinations useful in treatment of Pathri, Chitki holds a reputed position among the healers. In reference literatures related to different systems of medicine in India, I have yet not found much details regarding its medicinal properties and uses. In many reference books, the use of this herb as diuretic by the natives of different parts of the world has been mentioned.

According to the reference literatures, botanically Chitki is a small, pubescent or glandular, diffuse green herbs; Leaves linear-subulate, semi-terete, rather fleshy; Flowers white, petals obtuse; Capsules 5-valved; seeds papillose, keeled or narrowly winged. It grows as winter (rabi) season herb in Chhattisgarh.

In official records, the name of Chitki is not present in the list of medicinal herbs of Chhattisgarh having any demand in national markets. The herb traders and collectors have confirmed this information. The traditional medicinal knowledge about Chitki is although less in Chhattisgarh but I am proud to write that these traditional uses are coming for the first time among the world community through this article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the Female herb collectors of Charama region.

I have noted that the female herb collectors of this region have in depth traditional medicinal knowledge about common herbs. The matter of appreciation is that they shared their knowledge without any problem and also showed interest in gaining new knowledge. I am giving the details in present article.

The female herb collectors of Charama region informed me about many precautions they take while using Paan leaves (Piper betel) and other parts. The chewing of Paan leaves is a common habit in this part of Chhattisgarh and according to the female herb collectors, the wrong use of

this herb is causing great harms particularly in youths. They informed that the roots of Paan should be avoid as medicine in any form because it produces many incurable troubles. They are in favour of chewing Paan leaves only after the meal. The chewing of leaves and swallowing of juice in empty stomach causes disturbances in digestive system and as bad habit it causes many complicated troubles in long term. They also avoid the swallowing of leaf juice during chewing. According to them, by adopting the above mentioned precautions one can enjoy the leaves with less harmful effects. These precautions are very promising and this is the reason I am disseminating the knowledge among the natives for judicious use of Paan leaves. The female herb collectors of Charama region informed about different traditional medicinal uses of Papita (Papaya) seeds. According to them, its internal use in specific doses nullifies the harmful effects of all types of poison. During visit to forest for the collection of herbs when they get snake bites or scorpion bite, if available, they use the seeds of Papita as first aid measure. I have seen the dry seeds with many female herb collectors. They further informed me that the seeds are a boon for the female having Amenorrhoea. Like other parts of Chhattisgarh, the natives of Charama region also use Poi (Basella alba) as vegetable. The female herb collectors are aware of its unique use. According to them, the juice of whole herb acts as male aphrodisiac. The juice is massaged on male genital just before the intercourse. I was surprised to gain this knowledge from them and also to see their willingness to share the knowledge. Later, the traditional healers of Charama region confirmed its miraculous effect as aphrodisiac. The names of different parts of Pipal (Ficus religiosa) are present in the list of medicinal herbs, the female herb collectors of Charama region collect . They are aware of its unique traditional uses also. They collect the fallen, matured leaves of Pipal and after complete drying, keep it with them for future use. The powdered leaves are used in treatment of all types of vomiting. The leaf powder is taken internally with lukewarm water. They informed that the leaves collected from trees do not show promising effects. They further informed that the roots are used both internally as well as externally in treatment of Leucoderma. The aqueous extract of fresh root is taken internally whereas the aqueous paste is applied on white spots. Both internal and external uses at a time cure the trouble effectively in less time. Its popularity among the female herb collectors of Charama region is enough to indicate its efficacy.

Many of these uses were new to the traditional healers of Charama region. When I informed the healers about these uses they showed surprise to know the in depth traditional medicinal knowledge of the female herb collectors.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 102. Chari Van (*Zornia diphylla*, family Papilionaceae).

As the cattle feed on this herb and consume it with taste, the natives of Chhattisgarh Plains have named this wasteland herb as Chari Van. Aware of its high nutritive value, many cattle owners add this herb or its seeds in small amount with the diet of sick cattle or pregnant cows. They are aware that over dose can cause harmful effects. The herb collectors of Bhopalpatnam region informed me about unique observation. They claimed that many herbivores feed on this herb but at specific days and time. Their observation clearly indicates that these herbivores are aware of its specific medicinal properties and uses. With the help of these herb collectors, I am trying hard to get some solid information. Chari Van occurs as wasteland herb in different parts of Chhattisgarh. The traditional healers of Chhattisgarh specialized in treatment of Mirgi (Epilepsy) and other related troubles frequently use this herb. They also use it in treatment of insanity. According to them, in small doses this herb reduces the symptom of over excitement in patients having insanity. This is a matter of surprise that very few traditional healers of Chhattisgarh are aware of its medicinal uses and most of them are senior healers having age over 80 years. It is a matter of investigation that why the healers of young generation are not taking interest in this herb. The presence of other promising alternatives for these troubles may be the reason, but many senior traditional healers informed about its specific action and effect, that are not possible with the so called promising alternatives. In reference literatures, the use of Chari Van roots to induce the sleep in Children is mentioned. The traditional healers of Chhattisgarh are not aware of this use.

According to the reference literatures, Chari Van is much branched prostrate herb with thin wiry branches; Leaves palmately bifoliate, leaflets linear-lanceolate, acute, glabrous, with black glands; Flowers in 3-12 flowered racemes, bracts leafy, enclosing the flowers; Corolla yellow with pink base, exerted; standard board; Keel acute, incurved; Pods flat, 1-6 jointed, pubescent, densely prickly, enclosed within bracts. Officially, the name of Chari Van (*Zornia diphylla* syn. *Z.*

gibbosa; Z. conjugate) is not present in the list of medicinal herbs having any demand in national markets. The herb traders and collectors have confirmed this information.

The specific use of Chari Van by the herbivores of Bhopalpatnam forests, can give us a clue for its potential medicinal value. After getting the details, I will write a separate article on this unique aspect.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India. : Interactions with the female herb collectors of Kavardha region.

Through the interactions with the female herb collectors of Kavardha region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors of Kavardha region are aware of narcotic properties of Bhang. They are also aware that the over dose of Bhang causes ill effects on human health. They use many herbs and herbal combinations to nullify the harmful effects of Bhang. The remains of cooked Rahar dal (Cajanus cajan) are one of the promising remedies. As Rahar dal is in use and is an integral part of daily meal, it is not difficult to get the remains. The remains are taken internally frequently till the disappearance of harmful symptoms. This was new information for me. Like the natives and traditional healers of other parts of Chhattisgarh, the female herb collectors of Kavardha region are also aware of use of Makoi (Solanum nigrum) leaves in form of curry, to

treat the spleen related troubles. Makoi grows as wasteland herb in this part of Chhattisgarh. In general, the female herb collectors ignore the rat bite but in complicated cases, they use the combination of Majith (*Rubia cordifolia*) wood powder, Haldi (Turmeric) and Noon (Salt). The combination is applied externally on affected parts. The traditional healers of this region are well aware of this combination. They suggested the use of Kali Haldi (*Curcuma caesia*) in place of Haldi, in order to get more promising effects. The names of both Haldi and Majith are in the list of medicinal herbs, the female herb collectors of this region collect for commercial trade. Like Makoi, Gorakhmundi (*Sphaeranthus indicus*) also occurs as wasteland herb in this region. It also grows as winter (rabi) season weed in crop fields. Besides its use in treatment of troubles related to respiratory system, many female herb collectors informed that it can be used in treatment of gynaecological troubles. The whole herb, after flowering, is collected and dried in shade. After drying it is converted into fine powder. A fistful powder is taken internally in treatment of Dysmenorrhoea by them. I have yet not found the details of this use in reference literatures. The female herb collectors of Kavardha region are aware of high demand of Gorakhmundi. Therefore, they never miss the chance to collect this herb from their crop fields. I have written a lot on various aspects of this medicinal weed in my previous articles. The female herb collectors use Sonth (Dried Ginger) frequently as home remedy. Its internal use in any form is considered as beneficial in treatment of Piles (Bavasir) particularly the bleeding piles. Many senior collectors informed me that the combination of Sonth and Indrajau (*Wrightia tinctoria*) is a boon for the patients having Pthisis. Both herb parts are mixed in equal proportion and with Pasia (Rice water), it is given internally in treatment. In treatment of Bavasir, they use another herbal combination. This combination is used externally. In this combination Haldi powder and Thura (*Euphorbia neriifolia*) latex are mixed and the paste is applied on Bavasir. During the interactions on herbs and hair care, many female herb collectors informed that the combination of Hansraj (*Adiantum* sp.) leaves and cow ghee, is very promising in treatment of hair loss. It not only helps in maintaining the hair growth but also promotes the growth of new hairs.

Many of the above mentioned traditional medicinal uses have yet not been reported in reference literatures. It seems that this article is a first written document for this region regarding these traditional uses.

Thank you very much for reading the article.

Medicinal herbs of Chhattisgarh, India having less known traditional uses. 101. Odabrini (*Smithia conferta*, family Leguminoaseae).

Odabrini is the Hindi name of this herb. In Chhattisgarh I have still not got its local name. The natives and traditional healers of Chhattisgarh have kept this herb in the category of VanGhas (Wild grass). Although many species of this herb are present in wastelands of Chhattisgarh but it is a matter of surprise that the natives and traditional healers are not much aware of its medicinal properties and uses. The natives of Chhattisgarh Plains and Northern Chhattisgarh use the leaves as vegetable in small doses as over dose causes loose motions due to protienous contents. The natives are not aware of its health benefits but the traditional healers informed me that this preparation is having promising effects in treatment of troubles related to urinary system. The healers further informed me that this herb can be used successfully in treatment of Pathri (Renal Calculi) but added that as other promising alternatives are available, this herb is used less frequently. From documentation point of view it is an important information. In reference literatures related to different systems of medicine in India, many uses of this herb have been mentioned. According to Ayurveda, it is useful in treatment of biliousness, rheumatism, ulcers and sterility in women. Unfortunately, the healers of Chhattisgarh are not much aware of these uses.

According to the reference literatures, Odabrini is a much branched prostate herb; Leaves paripinnate, with bristly rachis; leaflets 2-6 pairs, linear-oblong; Flowers in pairs, clustered in the axils of terminal leaves of lateral branches; Corolla yellow with a brown band on the throat; Pods turgid, moniliform, 4-6 jointed, pappilose. This herb grows as winter season herb in Chhattisgarh.

As its name is not present in the list of medicinal herbs the herb collectors of Chhattisgarh collect for commercial trade, there is no threat on its natural population. I have taken its coloured photograph and prepared sketches and through the on-going surveys, asking the respondents about this herb and its traditional medicinal uses. You will find the details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Rajnandgaon region.**

Through the recent interactions with the female herb collectors of Rajnandgaon region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

The female herb collectors informed that when they get snake bite during visits to the natural forests for the collection of herbs, as first aid measure they use the leaves of different herbs. The leaves are simply crushed and applied on affected part. This application helps the patients a lot and after reaching to the traditional healers, the healers start systematic treatment. For this purpose, the herb collectors of Rajnandgaon region use the leaves of many common herbs. Doomar (*Ficus glomerata*) and Boir (*Ziziphus* sp.) are among these herbs. They prefer these two species but in case of non-availability, they use other herbs. The female herb collectors further informed me that they use the decoction of Boir bark in treatment of common fever. I have observed that the natural forests in Rajnandgaon region are rich in wild species of Boir (*Ziziphus* sp.). Many cultivated species are also available but the bark and leaves of wild species are preferred. I was not expecting this important information from the female herb collectors of Rajnandgaon region. They informed that the fresh leaves of Bambri (*Acacia nilotica*) are a boon for the diabetic patients. They are using its fresh juice and decoction both for this purpose. When I asked the traditional healers of Rajnandgaon region about this unique use, they showed ignorance but promised me to try it. Later, they confirmed that Bambri leaves alone or in combination with other herbs can be used in treatment of this common trouble successfully. I am feeling proud to document this important traditional knowledge. I am confident that this traditional knowledge can provide one more option to the patients. Bambri is a well

known tree in Chhattisgarh and the natives are aware of use of its all plant parts including spines. It seems that the mother nature has arranged this herb in the region, to provide the protection against diabetes. During interaction I got an additional information about the Herbal Mala having Bambri bark and roots. The patients having the problem of Dysmenorrhoea are suggested to wear this Herbal Mala as supplement treatment to main treatment. I have mentioned in previous articles that the natives and traditional healers of many parts of Chhattisgarh use Bambri plant parts in treatment of Gynaecological troubles. It is a matter of appreciation that the female herb collectors of Rajnandgaon region are aware of many unique uses of Bambri. The names of Bambri plant parts are present in the list of medicinal herbs the herb collectors of this region, collect for commercial trade. Many female herb collectors informed me that in treatment of Nocturnal emission, a common trouble in young age, the seeds of Van Tulsi (*Ocimum basilicum*) are very promising. The seeds are taken internally with lukewarm water. The use is continued till complete cure. It is considered as one of the promising treatments. I have mentioned in previous articles that the roots and seeds of Tulsi are used in form of Herbal Mala and Locketts for the same purpose in many parts of Chhattisgarh. I was not aware of its internal use. During interaction the female herb collectors of Rajnandgaon region confirmed the natural but rare occurrence of blue flowered Bhengra (*Eclipta* sp.) in forests. They informed me about the specific spots. Later, I visited these spots and saw these rare herbs. Besides the use of Bhengra in hair care, many female herb collectors of Rajnandgaon region, prepare a combination by mixing Bhengra whole herb juice and Andi (Castor seed) oil and take it internally in treatment of intestinal worms. According to them, few doses, cure the trouble effectively in very less time .

I got many unique information through this interaction. I am planning to visit the region again in search of rare herbs and traditional medicinal knowledge about it.

Thank you very much for reading the article.

Herbal dishes of Chhattisgarh, India. 165. Sirsa Phool Ke Chutney.

Sirsa Phool Ke Chutney is a popular herbal dish among the traditional healers of Chhattisgarh specialized in treatment of fevers. The common natives are not much aware of this preparation. It is given to the patients without disclosing its ingredients. Sirsa Phool Ke Chutney is considered as a boon for the patients having Malarial fever. It is given as food supplement with routine treatment. Sirsa Phool Ke Chutney is prepared by using the flowers of Sirsa (*Albizia lebbeck*) as main ingredient. In reference literatures related to different systems of medicine in India, many medicinal properties and uses of Sirsa Phool have been mentioned. According to Ayurveda, the flowers are good for Asthma whereas according to Unani system of medicine, flowers are aphrodisiac, emollient, maturant and its smell cures the Adhasisi (Hemicrania). The traditional healers of Chhattisgarh recommending this Chutney, are not aware of its other health benefits. As other ingredients, Haldi (Turmeric) and cow ghee are added in this preparation. To prepare the Chutney, Sirsa phool, and other ingredients are mixed and with the help of stone, all ingredients are crushed into fine paste. This fine paste (i.e. Chutney) is served with meals.

For the botany, traditional and reported medicinal uses of Sirsa and Haldi, please read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 100. Ulatkambal (*Abroma augusta* family Sterculiaceae).

Although the reference literatures on flora and the traditional healers of Chhattisgarh claim the natural occurrence of Ulatkambal in Chhattisgarh but I have yet not seen it in wild. As Homoeopath, I am using the Homoeopathic drug prepared from its root in treatment. These claims have motivated me to search the herb in wild and to evaluate its efficacy as Homoeopathic drug *Abroma augusta*, I purchase from German Pharmacy. Dr. B.R. Guha, a well known Homoeopath of Chhattisgarh, was aware of its natural occurrence and he requested me to provide the herb from wild but due to poor identification I was unable to fulfill this requirement.

Dr. Guha is not with us now. As mentioned in previous articles, that I always keep the photographs, diagrams and sketches of herbs with me and never miss the chance to ask the respondents about its occurrence in their region. Many traditional healers of Southern Chhattisgarh identified Ulatkambal herb from photograph and informed that in very little dose they use it in treatment of gynaecological troubles particularly in Dysmenorrhoea. They consider it as one of the promising treatments of this trouble. They emphasized in 'Very little dose' because according to them, larger dose can cause great harm to human body. My Guru Shri Vishal Bharat once told me that with the help of Abroma roots, in case of Polyuria, common in diabetes, can be treated successfully. He was using it in treatment but he never told me from where he was procuring the roots of Abroma.

According to the reference literatures, Ulatkambal (*Abroma augusta* syn. *Theobroma augusta*) is a large shrub or small tree, grown occasionally in gardens and widely distributed throughout the hotter parts of India. The fibre from bark is used for ropes and cordage. The drug Abroma comprises fresh or dried root bark and is used as uterine tonic and emmenagogue. Botanically, it is a shrub having velvety branches (possibly this is the reason for its Hindi name Ulatkambal because Kambal means blanket); Leaves 10-15x12 cm, repand, denticulate, entire, smooth above, pubescent below; flowers dark red; Fruit capsule ob pyramidal; Seeds enveloped in light cottony wool.

Officially, the name of Ulatkambal is not present in the list of medicinal herbs having any demand in national market. Possibly, the authorities are not aware of its natural occurrence in the state. The herb collectors of almost all parts of Chhattisgarh confirmed that it is not in trade from Chhattisgarh. The local herb shop owners informed that they purchase it from the Himalayan region for sell.

Through the on-going Ethnobotanical surveys, I am trying my best to gather more information about this important herb.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Sirpur region.**

Through the interactions with the female herb collectors of Sirpur region I have collected few but important information on traditional medicinal uses of common herbs. These female herb collectors extended full support in sharing the traditional knowledge. I am giving the details in present article.

The female herb collectors informed that they use the bark of Pipal (*Ficus religiosa*) tree in form of decoction to dress the open wounds. The shade dried bark is boiled in water to prepare the decoction. Like in other parts of Chhattisgarh, Pipal is a common tree of medicinal and religious importance in this part of Chhattisgarh. Like the bark of Pipal, the female herb collectors are also aware of use of Pan leaves (*Piper betel*) in treatment of wounds. The leaves are applied externally in form of aqueous paste. I have noted during the survey that the herb collectors when get any serious injury, cover the injured parts with Pan leaves, till the arrival of the traditional healers. It is common belief among them that the leaves and leaf juice of Pan help in making wounds infection free. I have mentioned in previous articles that the natives and traditional healers of other parts of Chhattisgarh use Neem leaves for the same purpose. Later, the traditional healers of Sirpur region confirmed its promising effects. The practical knowledge of herb collectors helps them in saving their lives when they get injuries inside the forests far from medical reach. The female herb collectors of Sirpur region informed me about different uses of Pashanbhed herb. I have mentioned in previous articles that many species of *Coleus* (Pashanbhed) exist in Chhattisgarh and natives and traditional healers are aware of its medicinal uses and properties. In treatment of stomach pain, the female herb collectors simply boil the leaves in water and take the decoction internally with noon (Salt). In most of the cases, they get rid from this pain, without any problem. Many female herb collectors informed that the internal use of whole herb in powder form helps in curing the digestive system related troubles. It is considered as promising appetizer. In general, the herb collectors mix its roots, barks and stem in equal proportion. They continue its use even after complete cure in order to prevent further problem. Many traditional healers of this region are not in favour of using this herb internally upto long time. In combination with Pippali (*Piper longum*) fruit, the female herb

collectors of Sirpur region prepare an aqueous paste using Pashanbhed leaves. This paste is applied on breast of lactating woman in order to increase the flow of milk. This use is very popular among them. The traditional healers of this region suggested the addition of more herbs in it to make the paste more promising. In treatment of lice and dandruff problem in hair, the female herb collectors use the flowers of Bakain (*Melia azedarach*). The fresh juice of flowers is applied on hair before bath and during bath, it is washed with water. According to them, within few days through this application they get rid from this trouble effectively. For more promising effects, the collectors boil the flowers in water and prepare a decoction. This decoction is used to wash the hair. This was new information for me. During the interaction when I asked about Mandukparni (*Centella asiatica*) herb, many female herb collectors told that its root extract can be used in treatment of common cough.

Many of the above mentioned traditional medicinal use have yet not been reported in reference literatures. I am fortunate that the mother nature has given me opportunity to document this valuable knowledge.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 99. Negli (*Polygala chinensis*, family : Polygalaceae).

Although the reference literatures claim that the roots of Negli do not possess any specific property that can nullify the harmful effect of snake venom but I have seen these roots with the herb vendors of Maharashtra, visiting to Chhattisgarh for the sell of herbs. They not only sell it as a remedy to get rid from snake venom but also tell about the method of use. The roots in form of aqueous paste is applied on affected part whereas the patients are suggested to chew the roots. Later, when I asked the traditional healers of Chhattisgarh specialized in treatment of

snake bite, they told that this can be used as promising first aid measure. The chewing of roots stop the problem of dizziness, common (also lethal) after snake bite, to the great extent. In place of dry roots, they suggested the use of fresh roots. The dry roots can also be used but only after soaking it overnight in water but for the common person it is not feasible to keep the softened roots ready always. In general, the herb vendors do not disclose its identity. I personally feel that if even these roots are acting as first aid measure, it is of great use because in majority of cases the patients die before reaching to the traditional healers. It is a matter of surprise that how the reference literatures claim that the roots are not effective. In most of the cases, the natives and traditional healers of different regions use same root in different ways for the same trouble. It is not mentioned in reference literatures, that the researchers have evaluated the roots on the basis of traditional knowledge of which specific region or healer. The traditional healers of Chhattisgarh specialized in treatment of different types of fever informed that this root can be used in treatment of Malarial fever in combination with other herbs but as other promising alternatives are available, it is now used less commonly. Negli is a popular name of this herb in areas situated near to Maharashtra border. In reference literatures its Hindi name is mentioned as Meradu. In Chhattisgarh, it is not recognized with this name. Negli is a common herb in many parts of Chhattisgarh. This is a matter of surprise that very few traditional healers are aware of its medicinal properties and uses.

According to reference literatures, Negli is a herb with orbicular, obovate, elliptic, elliptic-oblong, linear-oblong, recurved, mucronate, narrowed toward base, shortly petioled leaves; Flowers yellow, solitary or in lateral racemes. Capsule ovate-oblong; seeds black, elliptic obovate, pillose. The English name of *Polygala chinensis* (Syn. *P. arvensis*) is common Indian Milkwort.

In Chhattisgarh, it is not collected for commercial trade. Officially, its name is not present in the list of medicinal herbs. I personally feel that there is a strong need to popularize the traditional medicinal use of this herb in case of snake bite among the common natives, particularly in regions where snake bites kill hundreds of lives every year.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Female herb collectors of Nagri-Sihawa region.**

In previous articles, I have mentioned that the natives and traditional healers of Nagri-Sihawa region have in depth traditional medicinal knowledge about common herbs useful in treatment of different types of fever. But through the interactions with the female herb collectors of this region, I got many new information on different uses of common herbs. I am giving the details in present article.

The natives of this region plant Mehndi (*Lawsonia alba*) herb in hedge. The female herb collectors of Nagri-Sihawa region use the Mehndi plant parts in treatment of many common diseases, besides its use in hair care. In treatment of troubles related to digestive system they mix the Mehndi leaf juice with lukewarm cow milk and sugar and take it internally. The new leaves of Mehndi are preferred for juice. There is no fix ratio but in general Mehndi leaf juice is mixed with cow milk in 1:4 ratio. When I interacted with the traditional healers of this region, they informed that this combination have many other health benefits. Its internal use helps in developing natural resistance inside the body. It is also a promising blood purifier. Unfortunately, the female herb collectors are not aware of these other health benefits. Many female herb collectors are aware of use of Mehndi Chhali (Bark) in combination with Indrajau Chhali (*Wrightia tinctoria*) in form of decoction. Both barks are collected and after shade drying, crushed into powder. Both barks are mixed in equal proportion. The mixture is boiled in water and when half quantity (of initial quantity) of water remains, the boiling is stopped and decoction is taken internally. This decoction is considered as a boon for the patients having Pelea (Jaundice). They informed me that within a week the patients feel great relief. The decoction is given once in a day. In general, they keep the mixture of barks with them and every morning fresh decoction is prepared. The traditional healers of this region confirmed the promising effects of this decoction and suggested that by adding more herbs, this decoction can be made more useful. Although the name of Mehndi is present in the list of medicinal herbs, the female herb collectors collect for trade but it is collected less frequently. The name Adusa (*Adhatoda vasica*) is present in the list as herb having regular demand. The female herb collectors of Nagri-Sihawa region use this herb in treatment of gynaecological troubles besides its popular use in treatment of troubles related to respiratory system. In treatment of Safed Paani (Leucorrhoea), they use its roots. The aqueous extract of Adusa root is taken in combination with Shahad (Honey) internally. They are in favour of its use upto very long time even after the cure because according to them this combination is having promising effects on female

reproductive system. Many female herb collectors use the combination of Adusa leaf juice and sugar internally, in treatment of Dysmenorrhoea. I personally feel that through the systematic research we will be able to know that which part is more effective in treating these troubles. The popularity of both combinations among them, clearly indicates its usefulness in treatment. During the interaction, I got valuable information on traditional medicinal uses of ornamental herb Harshringar (*Nyctanthes arbor-tristis*). The female herb collectors are aware of many uses of its leaves. In treatment of Scrofula, the leaves are used in combination with Bans (Bamboo) leaves. Both leaves are mixed in equal proportion and crushed with the help of stone to prepare the aqueous paste. This paste is applied externally on affected parts as treatment. It is considered as one of the promising treatments. In treatment of rheumatic pain, they use the leaves both internally as well as externally. Internally the lukewarm leaf juice is taken in combination with Adrak (Ginger) juice whereas externally, the leaves are boiled in water, and the painful parts are exposed in medicated vapour in order to get immediate relief. Both internal as well as external use at a time cures the trouble in very less time.

This is a matter of appreciation that these female herb collectors have detailed information about each traditional use. It is their deep faith in traditional medicinal knowledge, because of that the uses are still in practice.

Thank you very much for reading the article.

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Herbal dishes of Chhattisgarh, India. 164. Jangli Sarson Ke Bhaji.

Jangli Sarson is a local name of *Sisymbrium irio* (Khoobkalan). Jangli Sarson grows as wasteland herb in Chhattisgarh. Jangli Sarson Ke Bhaji (Curry) is prepared by using its new

leaves. This preparation is popular among the natives for its typical taste. The traditional healers of Chhattisgarh are aware of its health benefits. They recommend it to the patients having troubles related to respiratory system. According to them, its regular intake during winter season help in developing natural resistance in order to fight against common troubles due to cold winds.

Material Required: Jangli Sarson leaves, Noon (Salt), Tel (Oil), Masale (Spices).

Method of Preparation: Oil is taken in pan and pan is kept on fire. The leaves and all other ingredients are added. The mixture is roasted well till the loss of water. The curry is served hot with Bhat (Cooked rice). When it is prepared for the patients, the spices are used in less amount.

For the botany, reported and traditional medicinal uses of Jangli Sarson, I suggest you to read my previous articles.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 96. Jal Dhania (*Ranunculus sceleratus*, family : *Ranunculaceae*).

According to Dr. H. C. Allen in a famous book 'Key noted and characteristics of the Materia Medica with Nosodes,' *Ranunculus* as Homoeopathic medicine is one of the most effective remedies for the bad effects of alcoholic beverages, spasmodic hiccough, and delirium, day blindness, mist before eyes, pressure and smarting in eyeballs etc. In Homoeopathy *Ranunculus bulbosus* is used to prepare the medicine. About ten years back when I presented a sample of *Ranunculus sceleratus* herb to Dr. B.R. Guha, a well known Homoeopath of Chhattisgarh, he tried it and through clinical trials confirmed it that this species of *Ranunculus* can be used as substitute to *R. bulbosus* but he has not declared it as promising substitute. In

my previous articles I have mentioned its natural occurrence in Chhattisgarh particularly in Southern Chhattisgarh. In reference literature its Local name is mentioned as Jal Dhania but the natives and traditional healers of different parts of Chhattisgarh identify it through different names. In many parts the natives have kept it in the category of wild plant (Van Kachra). As it is clear from its English name Blister butter cup, the traditional healers of Chhattisgarh are aware that the fresh herb is poisonous. According to the reference literatures, its internal use produces violent effect. The bruised leaves form an application to raise the blisters. The traditional healers informed that if this herb is used judiciously, it can be used in treatment of many problematic diseases. The healers of Chhattisgarh always use this herb in combination with other herbs. The role of other herbs is to nullify the harmful effects of Jal Dhania. According to the literatures, the use of its seeds in treatment of Kidney trouble is mentioned but the traditional healers of Chhattisgarh specialized in treatment of these trouble use whole herb before flowering, in treatment. In treatment of joint pains, in order to increase the efficacy of Nirgundi (*Vitex negundo*) leaves, the leaves of Jal Dhania are added in small amount. The combination of leaves is applied in form of aqueous paste. Many time, the combination is used to prepare the decoction and patients having joint pains are suggested to expose the painful parts in medicated vapour coming from boiling decoction. The healers are not much aware of its other medicinal uses. Botanically, Jal Dhania is an erect glabrous, annual herb; much branched; Lower leaves with cuneate, obtusely-toothed segments, petiolate; upper leaves 3-fid, shortly stalked or sessile, upper most usually simple, linear, sessile; Flowers yellow, numerous, terminating the branchlets, and from the forks; Fruiting receptacle slightly hairy; Achenes many, rather turgid, not margined, glabrous, on an oblong hairy receptacle. It grows as winter season herb in Chhattisgarh.

The name of Jal Dhania is not present in the list of medicinal herbs having any demand in national and international markets. Through the on-going ethnobotanical surveys, I am trying my best to gather more traditional uses of this herb.

Thank you very much for reading the article.

Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with Female herb collectors of Durg region.

I have noted during the interactions with the female herb collectors of Durg region that they are more aware of medicinal uses of common herbs that grows in surroundings as compared to the forest herbs they collect for commercial trade. Durg region is situated in Chhattisgarh Plains where farming is main occupation of the natives. Most of the female herb collectors of this region invest their effort and time during rainy season, in commercial cultivation of rice crop and after harvesting of crop, they visit to the forests for the collection of herbs. According to them, it is rather difficult to enter in forests in rainy season. After the end of rainy season when new flush of annual herbs reaches to maturity stage, it is the best time for collection. There are many female herb collectors that are engaged in herb collection round the year.

The female herb collectors of Durg region informed me that in treatment of troubles related to urinary system, the roots of Sitaphal (*Annona squamosa*) can be used successfully. The roots are rubbed in stone with the help of water and an aqueous extract is prepared. This extract is taken many times a day as treatment. It is considered as a boon for the patients having the problem of Pathri (Renal Calculi). Its regular use helps in flushing out the Pathri effectively in very less time. The root of Sitaphal is not present in the list of medicinal herbs, collected by the female herb collectors for trade. Sitaphal is well known in the region for its delicious fruits. This herb can be seen as garden herb in home gardens. Like Sitaphal, Munga (*Moringa oleifera*) is also a popular medicinal tree in Chhattisgarh. The female herb collectors of Durg region are aware of many uses of this herb. In case of earache, as first aid remedy, the dry flowers of Munga, in form of fine powder, are applied into the affected ear. According to them, in most of the cases, the patients get immediate relief. Many herb collectors, mix it with Til (Sesame seed) oil and apply it internally. I have mentioned in previous articles, that the natives of Chhattisgarh prepare different herbal dishes using Munga flowers. Munga Ke Bhajia is a popular breakfast. In treatment of Carbuncle, the female herb collectors of Durg region use the root bark of Munga. The herb part is collected and after drying in shade, converted into powder. In combination with cow urine, the aqueous paste is prepared. This paste is applied externally on Carbuncle as treatment. They give preference to the use of roots in treatment as compared to the bark. To dress the wound, they also use a decoction of Doomar (*Ficus glomerata*) bark. The decoction is prepared by boiling its bark in water. Every time fresh decoction is prepared and used. The names of different parts of Doomar is present in the list of medicinal herbs, the female herb collectors collect. Many villages of Durg region have been named on this herb due to high population of this herb. The traditional healers of Durg region are also aware of use of Doomar

bark to dress the wound. They are in favour of using the aqueous extract (in cold water) of Doomar as compared to its use as decoction. I personally feel that through systematic studies we can evaluate the efficacy of both extracts. Many female herb collectors of Durg region informed me about the use of Khamhar leaves in treatment of internal swellings. According to them, the leaves are boiled in cow milk and after eliminating the leaves, the solution is taken internally. It is considered as one of the promising treatments.

The female herb collectors informed about many traditional uses of common herbs but I have already reported these uses in my previous articles. I am not repeating it here.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses 95. Jatavan (*Naravelia zeylanica*; family : *Ranunculaceae*).

Although the herb collectors and traditional healers of many parts of Chhattisgarh claim that Jata van is present in abundance in natural forests but I have seen it in isolated patches only. During recent visit to Southern Chhattisgarh, the traditional healers informed me that in early days its young twigs were in use as Datun (Herbal tooth brush). Its use is still common in remote areas far from big cities. Instead of its regular use like Neem or Babool (*Acacia nilotica*) twigs, the healers recommend its use upto specific period. It is considered as a boon for the patients having gum and tooth related troubles. Many healers claim that through judicious use, with the help of young twigs of Jatavan, cancerous wounds, at initial stages, can be cured. They further informed that its regular use as Herbal Tooth Brush produces numbness in taste buds, hence it must be used carefully. It is mentioned in reference literatures that its root when crushed emits smell, which is said to relieve headache. When I asked the healers about this use, they replied that the decoction of root prepared by boiling the roots in lukewarm milk, can cure the headache but as other promising alternatives are available, this decoction is used less frequently. They further informed that the decoction of stem is more promising as compared to root decoction but stem decoction is prepared by using water instead of cow milk. They are

unable to give the scientific explanation but they are using it since generations. I personally feel that it is our responsibility to search the scientific reason and explanation. According to the reference literatures, Jatavan (*Naravelia zeylanica* syn. *Atragea zeylanica*) is scandent or climbing woody shrubs with pubescent or tomentose branches and tuberous roots; Leaves 3-foliolate, two opposite leaflets ovate-cordate and the terminal one 3-branched tendril; Flowers yellowish green or whitish; Achene red, villous with long feathery styles. Flowering and fruiting time in Chhattisgarh condition is October to February. It is mentioned that its stems are used to prepare the ropes but this use is not much popular among the natives of Southern Chhattisgarh.

Officially the name of different parts of Jatavan is not present in the list of medicinal herbs traded from the state. The herb collectors of Chhattisgarh confirmed it. I have noted that as the senior traditional healers are passing the valuable information regarding medicinal uses of Jatavan is also losing. The specific use of Jatavan in treatment of cancerous wound requires attention from the scientific community. This traditional knowledge can save the lives of many patients around the world.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 97. Kirva (*Miliusa tomentosa*, family *Annonaceae*).

Although many reference books claim that this tree is present in the sub-Himalayan tracts and Tarai region but in fact this tree is also present in natural forests of Chhattisgarh. It is considered as important tree from timber point of view. Its wood is used for cabinet work and carving. Its fruits are edible and the gum known as Karee gum in trade, is used as substitute for Tragacanth. It is not mentioned as medicinal herb in reference literatures. Also, in reference literatures related to different systems of medicine in India, I have yet not the details regarding

its medicinal uses and properties. Through the ethno-botanical surveys conducted in different parts of Chhattisgarh I have collected few but important medicinal uses of this herb and got the opportunity to interact few traditional healers mostly crossing the age of 70 years. Unfortunately, the healers of young generations are not much aware of these uses. This observation forced me to document the traditional medicinal knowledge about Kirva in Chhattisgarh, without any delay. Before giving the details, I am describing its botany, I have noted from the reference literatures. Botanically, it is a medium size tree with pubescent or tomentose shoots; Leaves ovate-oblong, obtuse with short acumen; Flowers on slender pedicels nearby all lateral from previous years shoot; solitary, dark purple; Fruits are umbels of roundish, black, fleshy carpels.

Many healers of Chhattisgarh informed that the reason behind its local name Kirva (i.e. Worms) is its anthelmintic properties. Its bark can be used in treatment of worm troubles. They informed that it is an important ingredient of many herbal combinations, used by them, to flush out the intestinal worms. I have seen its dry root dipped in Sindoor (Mercuric oxide), in many Herbal lockets. The herb vendors of Chhattisgarh sell this locket. It is common belief that this locket helps in treatment of Mirgi (Epilepsy). The healers are not aware of its use as main remedy in treatment of Mirgi. Many healers use its bark, collected from old trees, in treatment of rheumatism, in many ways. The barks are applied in form of aqueous paste in affected parts. They also boil the bark in water and suggest the patients to expose the affected parts in medicated vapours. Although these traditional medicinal uses are not enough to establish this herb as promising medicinal herb but from documentation point of view, it is important information.

The name of Kirva (*M. tomentosa* syn. *Saccopetalum tomentosum*; *Uvaria tomentosa*) is not present in list of medicinal herbs, the herb traders and collectors of Chhattisgarh, deal with. As mentioned earlier, that its medicinal uses have yet not been reported, it seems that this article is the first written documentation on its traditional medicinal uses.

Thank you very much for reading the article.

**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with the Female herb collectors of Kanker region.**

Through the informal interactions with the female herb collectors of Kanker region, I have collected many valuable information on traditional medicinal uses of common herbs. I am giving the details in present article.

When we started discussion on common fevers and its herbal treatment, I noted that like the natives and traditional healers of other parts of Chhattisgarh, the female herb collectors of Kanker region are also aware of use of Kalmegh (*Andrographis paniculata*) in treatment of Malarial fever. Every year this herb occupies the forest floor in abundance. Through the interaction, I got an additional information. The female herb collectors informed me that the bark of Lasora (*Cordia dichotoma*) can be used in form of decoction in treatment of fever. The barks are collected from very old trees. The decoction is given in every one hour. The use is continued till complete cure. It is considered promising in treatment of Intermittent fever. The female herb collectors informed me about many uses of Bakain (*Melia azedarach*). In treatment of eye pain, the fruit pulp of Bakain is used. The fruits are crushed and an aqueous paste is prepared. This paste is applied on eyelids after closing the eyes, as treatment. After drying it is washed. The application is repeated many times a day. According to them, this application, reduces extra heat from the eyes and makes it trouble free. I am not sure about the correctness of their explanation but the popularity of this paste among them clearly indicates its efficacy. The female herb collectors further informed that for internal swellings in cattle they use the leaves of Bakain. The fresh juice of Bakain is given internally to the sick animal. When I informed the traditional healers of Kanker region about this use, they surprised me to reply that this can be used in case of human beings also. Obviously, in small doses. The healers suggested the combination of Bakain leaf juice with, Bans (Bamboo) leaf juice, in order to get more promising effects. The female herb collectors of Kanker region are aware of use of Bakain roots in treatment of Dog bite but they prefer to contact the traditional healers for systematic treatment. I have mentioned in previous articles that how the healers manage the problem of patients having dog bite through common herbs and herbal combinations. During the visits to natural forests when they get injuries, they use many common herbs present in surroundings in treatment. The use of Ain Chhali (*Terminalia alata* bark) is very popular among them. They use it in simple as well as serious injuries. It is applied in form of aqueous paste. Many female herb collectors informed that this extract can be used externally to promote the reunion of bone in case of fracture. This was new information for me. Although they are not much aware of treatment of Carbuncle, but many

senior herb collectors informed that the combination of Hing (Asafoetida) and Dahi (Curd) can treat it successfully. The combination is taken internally.

I was expecting more information from the female herb collectors of Kanker region, as this region is rich in natural bio-diversity and herb collection is one of the major activities in the region. I will try hard to gather more information in my future visits to Kanker region.

Thank you very much for reading the article.

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Medicinal herbs of Chhattisgarh, India having less known traditional uses. 98 Pilijadi (*Thalictrum foliolosum*, family Ranunculaceae).

In Chhattisgarh many species of Pilijadi grow naturally but all species are known as Pilijadi among the traditional healers. I have mentioned in previous articles that in the name of Mamira many herbs are sold by the herb collectors and herb vendors of Chhattisgarh. Pilijadi is one of these Mamira. The local collectors and vendors are not aware that how this herb has got the name Mamira but they informed that many traders purchase it in the name of Mamira. In different systems of medicine in India, *Coptis teeta* is considered as true Mamira. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have observed this herb with the traditional healers specialized in treatment of Motiabind (Cataract). According to the healers, the use of whole herb particularly its roots, both internally as well as externally helps in curing the problem of Motiabind. Their confidence reminded me the Homeopathic drug *Cineraria* used internally as well as externally for the same purpose. Many traditional healers use its roots in treatment of Mirgi (Epilepsy) and related troubles. Unfortunately, the traditional healers are not aware of its other medicinal uses. This is the reason I have kept this herb in the

category of herbs having less known traditional uses. In reference literatures it is mentioned that the roots possess tonic and aperient properties. It is found useful in treatment of intermittent fevers and dyspepsia.

Botanically, Pilijadi is graceful fern-like erect herbs, 90-120 cm high with rhizomatous root stocks; Leaves tri-pinnate, pinnate with usually ternate roundish lobulate leaflets; Flowers small in large branched panicles; Achenes turbinate, 8-ridged. It grows as Kharif (rainy) season herb in Chhattisgarh. The herb collectors and herb traders of Chhattisgarh confirmed that this herb is not in trade from Chhattisgarh. Hence, there is no threat on its natural population. I have seen its name in the list of endangered plants in many parts of India but fortunately, the situation in Chhattisgarh is different.

Through the on-going surveys, I am trying my best to gather more information various aspects of this herb.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interactions with the Female herb collectors of Narharpur region.**

Through the interactions with the female herb collectors of Narharpur region, I have collected few but important information on traditional medicinal uses of common herbs. I have noted that

many women visiting to nearby forests in search of fire wood are also aware of common uses of herbs. I am giving the details in present article.

The female herb collectors of Narharpur region informed that different parts of Dhanbaher (*Cassia fistula*) tree possess valuable medicinal properties and uses. In treatment of gynaecological troubles particularly Dysmenorrhoea, the female herb collectors use the fruit pulp of this tree. The pulp is collected and by boiling it in water, decoction is prepared. This decoction is taken internally twice a day as treatment. This treatment is very popular among them. Like the natives and traditional healers of other parts of Chhattisgarh, the female herb collectors of Narharpur are also aware of use of fruit rind of Dhanbaher externally in order to hasten the process of delivery. The rind in form of aqueous paste is applied around the pelvic region. Many female herb collectors are aware of its internal use in combination with other herbs for the same purpose. The name of Bhelwa (*Semecarpus anacardium*) is present in the list of medicinal herbs, the female herb collectors collect for trade. During collection of its fruit, when they get different types of injuries, they use many common herbs in treatment. I have written a lot on this aspect in my previous articles. In normal cases, as first aid measure the leaves of Dhanbaher are applied on affected parts. Leaves are applied in form of either juice or aqueous paste. In complicated cases, the leaves and bark of Koha (*Terminalia arjuna*) are used. By mixing the leaves and bark in equal proportion, with the help of water an aqueous paste is prepared. This paste is applied on swelling, due to Bhelwa fruits. The female herb collectors of Narharpur region use both remedies very frequently. Its popularity among them clearly indicates its efficacy. During the visits to Narharpur region, I have observed that this region is rich in natural population of Indrajau herb. The female herb collectors of this region are aware of its demand as medicinal herb. They informed me about a special herbal combination in which Indrajau (*Wrightia tinctoria*) root bark plays an important role. The roots are collected and green bark is separated. The bark is boiled in water to prepare a decoction. This decoction is considered as a boon for the patients having gynaecological troubles. When I asked the traditional healers of Narharpur region about this decoction, they confirmed its promising effects but suggested that by adding more herbs in the decoction, this decoction can be made more useful. As other herbs, Gondla (*Cyperus* species), Dhawai (*Woodfordia* sp.), Chhui Mui (*Mimosa pudica*) etc. are added. When I informed about these herbs to the female herb collectors, they do not showed much positive responses because they are satisfied with the effects of root bark decoction. Many herb collectors informed about unique use of Gasti (*Sesbania* sp.) leaf juice in treatment of Adhasisi (Migraine). The leaf juice is applied into the opposite side nostril. If the pain is in right side, the juice is applied in left nostril and vice-versa. According to the herb collectors, this simple treatment helps in reducing the intense pain.

Although Narharpur region is very close to Dhamtari city, a well known herb market of Chhattisgarh but I have noted that from female herb traders of Narharpur region to the buyers at Dhamtari city, more than six small traders are active. You can simply imagine that the prices the female herb collectors are receiving for the collection.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Iron ring in Chhattisgarh, India.

The natives and traditional healers of Chhattisgarh have deep faith in Astrology and like the natives of other parts of India, the activities of Shani (Saturn) disturb them to great extent. To nullify these effects, the natives wear Iron ring in middle finger upto specific period as per recommendations of the Astrologers. The iron ring is prepared from Horse Shoe (Ghode Ki Nal) mostly. There are specific rules for preparation of Iron ring. The ring is prepared from broken Horse shoe that have fallen down spontaneously on Saturday from the legs of black coloured horse. Taking advantage of this belief, many natives sell false rings (not collected on specific day) and you can find this Iron ring in majority of shops selling Astrology related materials. Many Astrologers suggest the use of Iron piece collected from the boats of holy rivers, to prepare the Ring. Many organization in India unaware of the scientific reasons behind this use, consider this use as blind faith. During the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I got opportunity to interact with many senior traditional healers specialized in use of Iron ring in treatment of many common diseases. I am giving the details in present article.

When I asked to the traditional healers of Southern Chhattisgarh, that how the Iron ring protects from the ill effects of Saturn. The healers informed that they advise to wear the tight rings in middle finger. The tight ring put a pressure on specific mental depression and the patients get sound sleep. I asked 'Whether Iron plays any role or we can use tight rings made up of plastic'. They replied that the rings prepared from different metals show different effects when it came in contact with that nerve or skin. They also recommend the use of Copper (Tamba) rings but Iron ring is considered more promising. Many healers informed that to maintain the seriousness of treatment, their forefathers have associated many strict rules with the use so that the patients wear it with great faith and sincerity. You will be surprised to know that many traditional healers of Chhattisgarh specialized in treatment of Lakwa (Paralysis) suggest the patients to wear Iron ring prepared from Horse shoe. They are instructed to wear it long life in order to prevent similar attacks in future. They do not associate it with the harmful effects of Saturn. Although they are unable to give the scientific explanation but the popularity of this traditional use among them, clearly indicates its efficacy and I feel that it is our responsibility to search the scientific explanation. The traditional healers of Bagbahera region suggest the patients having Pathri (Renal Calculi) to wear the Iron ring in middle finger of right hand. According to them, this ring helps in main treatment. After flushing out the Pathri, the healers instruct the patients to give the rings back to them.

Although the traditional knowledge about Iron ring is not associated with herbs, but as it is medicinal knowledge, as Ethnobotanist, I feel that it is necessary to document this unique knowledge. Many traditional uses look like blind faith from surface but when we go in depth, we get the scientific reasons behind these uses. I am confident that the scientific explanation will help the young generation to adopt this traditional knowledge more easily.

Thank you very much for reading the article.

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Status of Mexican Beetle *Zygogramma bicolorata* Pallister in Chhattisgarh, India.

As you know, Gajar ghas (*Parthenium hysterophorus*) is one of the problematic weeds in Chhattisgarh. According to the reference literatures, the Chrysomelid beetle *Zygogramma bicolorata* from Mexico was introduced in India during 1983 by Indian Institute of Horticulture Research, Bangalore. These beetles cause moderate to heavy damage to the weed by feeding on *Parthenium*. Convinced by the bio-control efficacy of these beetles, with the help of Chhattisgarh farmers, we released *Zygogramma* in ten different locations of Chhattisgarh including Northern Hilly region, Chhattisgarh Plains and Southern Plateau region during the year 2000. Since that release, we are monitoring its population yearly. We have noted that in Chhattisgarh Plains, this beetle is not performing well. Besides, high atmospheric temperature, many native predators have started feeding this exotic insect. The farmers of Durg region have seen the insect bodies with fungal infection. The studies to identify these Entomogenous fungi species are in progress. The beetles are performing excellently in Southern Chhattisgarh. The beetles released in Jagdalpur city area are now spreading spontaneously to nearby forest regions where *Parthenium* is causing great harm to natural medicinal herbs. No attack of predators and fungal species has been noted so far. In this part of Chhattisgarh, many native insect species have started feeding on *Parthenium*. You will be surprised to know that the competition between the native and exotic species have started for feeding. In Northern part of Chhattisgarh, the performance is average. As mentioned in previous articles that from medicinal point of view, the *Parthenium* growing in different parts of Chhattisgarh, possess different qualities. To confirm it, the laboratory experiments were carried out. In these experiments, the beetles collected from Southern Chhattisgarh, after three years of release, were kept with the *Parthenium* collected from Northern Chhattisgarh. Three sets are prepared. We have observed clearly that the beetles collected from Southern Chhattisgarh feeds more actively on *Parthenium* of same region. The rate of feeding is slow in case of *Parthenium* of other regions. This is new phenomenon and observation. Now, out of curiosity we are studying the feeding behavior of beetles, with *Parthenium* herbs collected from every 100 Kilometers.

I have mentioned in previous articles, that many traditional healers have started experimentation to search the potential medicinal uses of *Parthenium* and they are getting good success. These traditional healers are taking keen interest in *Zygogramma* beetle and eager to evaluate its medicinal properties and uses. If they get success, this exotic insect can be established in Chhattisgarh as medicinal insect. I am not aware that whether the natives of Mexico, are aware of any medicinal property of *Zygogramma* or not. In my initial experiments, I have found that the excreta of *Zygogramma* beetle possess valuable Allelochemicals of *Parthenium* herb and the decoction of this excreta can be used successfully as insect repellent without causing any damage to host plant. Although it is very hard to get the excreta in bulk to prepare the spray for many acres but I personally feel that this finding can guide the researchers that what changes occur when *Parthenium* herb pieces pass through the digestive tract of *Zygogramma* beetle.

I will write more about the progress in research on this aspect in coming article.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Madhrus (Honey) in Chhattisgarh, India.

According to the book 'Minor forest products of India' by Dr. T. Krishna Murty, Honey is considered as one of the most prized free gifts of nature and is very commonly used as natural sweet. Nectar in its natural condition is transparent, thin fluid but in course of transit and storage it passes through a process of chemical change and turns into honey. The latter contains 70-75 percent invert sugar, proteins, mineral, salt and water. Honey is collected by bees. There are three varieties of bees i.e. rock bees, hive bees and the little bees. The rock bees are the greatest honey harvester but at the same time they are exceedingly vicious. The Honey collected from Chhattisgarh is well known around the world. Although till reaching to the national markets, in popular blends it is very difficult to identify the Honey collected from Chhattisgarh separately but the increasing demand of pure Honey from Chhattisgarh without any mixture, is a proof that the Honey of the state possess special properties. Few years back, I got opportunity to interact with the traditional healers of North-East parts of India. The healers showed me a special Honey and informed that it is collected from the Chhattisgarh forests. For the first time I realized the importance of native Honey. Many pharmaceutical companies at national and international levels are eager to pay higher prices for this Honey. The natives and traditional healers of Chhattisgarh are not only aware of Honey rich forests but also they have in depth traditional medicinal knowledge about its properties and uses. You will be surprised to know that on the basis of medicinal properties of Honey, the senior traditional healers of Chhattisgarh have classified the state in nine Honey zones. According to them, the Honey collected from different zones possess different properties. The healers have given specific names to these zones like Asthma zone, Tonic zone, Fever zone, according to its utility in treatment of these specific troubles. These healers are taking the advantages of different zones and utilizing the Honey in more promising ways as compared to the other healers. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I got opportunities to interact with these

healers. The healers of present generation, are although aware of these zones but they are ignoring the importance of these zones day by day. Many healers informed that the introduction and invasion of many exotic species and their dominance over natural flora have changed the basic properties of medicinal Honey. They also blame the changing cropping pattern and introduction of new crops for change in basic properties of Honey. I have mentioned in previous articles that how the new plantations of Eucalyptus have damaged the Honey collection business in neighbouring state. When any new species is introduced in Chhattisgarh, we can not estimate its potential harms but as its harms come one by one, we find it as a real curse to our biodiversity. Unfortunately, there is not a single department in our state, engaged in restricting the entries of exotic herbs. Every year Honey trade gives good revenue to the state authorities. They must think in this direction in order to stop further damage and loss to traditional Honey trade. Although the scientific literatures are full of information regarding research on Honey Bee in Chhattisgarh but all these literatures are of academic importance. The nine Honey zones, demarcated by our healers are not mentioned in these scientific papers. I am thankful to the mother nature for giving me opportunity to document this important traditional knowledge. I am aware that now it is my responsibility to protect these nine Honey zones. The senior traditional healers explained that when the Honey collected from different zones reaches to big markets of Chhattisgarh, due to unproportionate blend, the Honey loses its original medicinal properties. The healers suggested that if the Honey collected from nine zones is traded separately after evaluating and establishing its medicinal properties scientifically, the state authorities and honey traders both can earn higher prices. I have searched the literatures related to Honey around the world, but yet not found any information regarding categorization of zones on the basis of medicinal properties, in any part of the world. This secret information is limited to very few senior healers. I personally feel that this is our moral responsibility to provide recognition to these healers and as they are eager to share their valuable knowledge to genuine persons, we must document this knowledge without any delay. I have gathered the information on nine zones but a lot information is still with them. They have special testing method by which they can identify the Honey of nine zones easily. These healers are aware that the introduction of new exotic species in natural forests have altered the medicinal properties of Honey but they are not worried. They claim that on the basis of Honey available at different forests, they can reclassify it. Through this article, I want to request the researchers to come forward and start the systematic research under supervision of these traditional healers, without any further delay. Few months back, I met a honey trader of Chhattisgarh Plains. After listening the traditional knowledge about Nine Honey zones, from me, he disclosed that he collects the Honey only from Mahua (*Madhuca* sp.) trees. The dense forests of Chhattisgarh are rich in natural population of Mahua trees. He informed that there is a specific demand of this Honey and many pharmaceutical companies pay very high price for this Honey. This was new information for me. These observations clearly indicate that a lot of research works are still pending in the field of Honey in Chhattisgarh.

In my previous articles, I have written a lot on the traditional medicinal uses of Honey as medicine from eye care to birth control measure. I am not repeating these uses in this article. The information given in this article, is coming for the first time in front of the world community. I am trying my best to gather more information on different aspects of Honey in Chhattisgarh. I will give the details in coming articles.

Thank you very much for reading the article.

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Traditional medicinal knowledge about common herbs in Chhattisgarh, India : Interactions with Female herb collectors of Pendra region.

In Chhattisgarh, the females play an important role in herb collection from natural forests. I am not using the word 'Woman' because the females of every age group start their days with visit to the natural forests for the collection of forest products. From this article, I am starting a new series based on the interactions with these female herb collectors. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have noted that from surface it is beyond the imagination to estimate the in depth traditional medicinal knowledge, these female herb collectors are having. As it is relatively hard to interact with these female herb collectors in comparison to the male herb collectors, particularly during field work, but I have tried my best to gather the information. In most of the interactions, they showed surprise about the interaction on herbs because no one has ever asked them about their knowledge about common herbs. Every year, these female herb collectors face the problem of wild animal attacks and in capital city Raipur, we frequently read the news that in forest the female herb collectors got severe injuries from the wild animals particularly Bhalu (Wild Bear). In Chhattisgarh, this important component of Herbal network is ignored always. Through this series I am keeping their in depth traditional medicinal knowledge and opinions about the natural resources among the world community.

To document the traditional medicinal knowledge in Pendra region, I have yet not conducted a systematic Ethnobotanical surveys among the female herb collectors. While traveling and passing through this region, by seeing the female herb collectors engaged in work in mid forest, I stopped my vehicle and through formal chat tried to gather the information. I have tried to fill the standard questionnaire among them but in such cases they refuse to give any reply with the fear that I am filing any case against them as any state authority. Many times by watching my

Jeep, they penetrated deeper inside the forests but at last, through frequent visits, I got success to win their confidence, at least to interact with them. Before starting this article, I would like to mention that we experts, have classified the forest herbs and field herbs but for these female herb collectors, all herbs are of equal importance. In previous articles, I have written a lot about traditional medicinal uses of different parts of Fudhar (*Calotropis gigantea*) in Chhattisgarh. From the female herb collectors of Pendra region, I got an additional information. They informed that the nodes of Fudhar look like swellings and the nodes are useful in treatment of swellings in human body. They further informed that the nodes portions are separated from stem and crushed into aqueous paste. This paste is applied externally on swellings as treatment. This was new information for me. The female herb collectors of Pendra region also consider the nodes useful in combination with Pippali (*Piper longum*) in treatment of respiratory troubles particularly Asthma. The combination is taken internally with Gud (Jaggery). According to the female herb collectors it acts as both preventive and curative to Asthma. When we started discussion on herbs for Bavasir (Piles), I informed them about the use of many common leaves to clean the anus after motion, as a way to get rid from the problem of Piles. They replied that the leaves of Karanj (*Pongamia pinnata*) can also be used for the same purpose. They are in favour of using newly emerged leaves of Karanj but older leaves can also be used in case of non-availability. Surprisingly, I got information about a special herbal combination from them, useful in treatment of all types of fevers. This is very important combination for them because fever can stop their visits to natural forests, besides giving extreme weakness. Many female herb collectors informed me that they take this combination in transitional period, as preventive to fever. In this herbal combination, the dry fruit of Aonla (*Emblica officinalis*), Harra (*Terminalia chebula*), roots of Chita (*Plumbago zeylanica*), Pippali (*Piper longum*) and noon (Common salt) are mixed. Before mixing, the herb parts are dried and converted into powder. All herbs parts are mixed in equal proportion. This combination is taken internally with lukewarm water. Many female herb collectors have discussion for the Chita species, that is added in the combination. Some were in favour of use of *Plumbago zeylanica* whereas other were using *Plumbago indica* (or *P. rosea*). The natural forests of Pendra are rich in both species of *Plumbago*. Their discussion indicated that both species can be used in this combination. All herbs used as ingredients in this combination are in the list of medicinal herbs, they collect for trade. As mentioned in previous articles that in many parts of Chhattisgarh, the barter system is still in existence. For the natives living in interior region Noon (Salt) is still a very precious commodity and taking advantage of this need, the small traders and other businessmen, purchase the herbs and herb parts from the herb collectors in exchange equal weight of salt. The rate of salt is 200 Rs. Per quintal (Nearly four US \$). You can imagine the condition and level of exploitation of these herb collectors specially the female herb collectors. Many male herb collectors dare to visit nearby town to sell the collections but the female herb collectors generally do not move far and get satisfied with poor prices. The purpose behind this writing is to inform the concerned authorities about the fact with hope that they will take necessary action in this direction without any further delay.

In the present series, you will get the details regarding many such bare facts.

Thank you very much for reading the article.

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Some less known but promising medicinal uses of common herbs : Recent interactions with the traditional healers and natives of Patan (Durg) region of Chhattisgarh, India.

Although the plains of Chhattisgarh are relatively less rich in medicinal herbs but the traditional healers and natives have rich traditional medicinal knowledge about common herbs and insects. The senior natives and healers still remember that few decades back, the plains were also rich in natural forests but the industrialization and population pressure have destroyed these forests and as result today the plains are facing the problem of extreme temperature in summer days. Through the recent interactions with the traditional healers and natives of Patan region, I have collected many additional information. I am giving the details in present article.

In early days, this region was rich in natural population of Bar (*Ficus benghalensis*) trees. Now very limited trees are present. The traditional healers of this region informed me about the use of medicinal rice variety Kanthi Banko. In preparation of any decoction, in place of water, they were using the aqueous solution of Kanthi Banko rice flour. This aqueous solution was prepared by mixing the rice flour in water. To prepare the decoction, the healers were adding any herb in this aqueous solution. According to the healers, in early days the availability of Kanthi Banko, was no problem, as it is under cultivation in Patan region but now a days, they use only plain water because it is very difficult to get Kanthi Banko. As I have mentioned in previous articles, that due to introduction of new high yielding varieties and modern methods of farming, we have lost our traditional culture and valuable medicinal rice varieties. The healers informed me about special decoction that was in use in early days to treat high fever. To prepare the decoction, the leaves of Bar (*Ficus benghalensis*) are boiled in aqueous solution of rice flour and when half quantity (of initial quantity) of solution remains, the boiling is stopped and decoction is given internally to the patients. The healers prefer the matured leaves of Bar to get more promising effects. This decoction is given many times a day. The doses are fixed according to the condition of the patients. Every time fresh decoction is prepared. According to the healers, this decoction not only reduces the high body temperature effectively in very less time but also acts as tonic. The senior natives of Patam region are aware of many traditional medicinal uses of wild Banana (Jangli Kela). They informed that in case of dog bite, the internal as well as external use of wild Banana seeds are very promising. The seeds are taken in form of aqueous

paste internally. This paste is also applied externally on affected parts. The traditional healers of this region confirmed the miraculous effects of Kela seeds in treatment of dog bite. It is odd to observe that the natives of young generation have planted tissue cultured modern varieties in home gardens and the senior natives living with them, are aware of valuable traditional medicinal uses of wild Kela. Like the natives and traditional healers of other parts of Chhattisgarh the senior natives of Patan region are also aware that the combination of Ama (Mango bark) and Kathal (*Artocarpus heterophyllus*) bark is useful in treatment of Dysentery. The barks are collected and dried in shade. After mixing, both barks are mixed in equal proportion and by boiling it in water, decoction is prepared. This decoction is taken internally as treatment. The traditional healers of Patan region add more barks in it to make the decoction more promising. When accidentally, any small children, swallow a lump of hairs or any foreign material, the natives of Patan region give Jamun fruits to the them in bulk. It is common belief among them that Jamun fruit pulp helps in flushing out the foreign material effectively. Many showmen consume this fruit pulp in bulk, before giving the stage show of eating plastics, and tube lights. But as Jamun (locally Chirai Jam, *Syzygium cumini*) is a seasonal fruit, its availability is specific to limited period. Unfortunately, the natives have no other promising alternatives in off-season. In any such case, they approach to the traditional healers. The healers are aware of many other alternatives but they do not want to disclose it. Jamun is well known tree of medicinal importance in Chhattisgarh. I have written a lot on various aspects of this herb specially its promising use in treatment of Diabetes in my previous articles. In treatment of a common trouble with increased appetite, to normalize the digestive system, the traditional healers of this region suggest the use of Andi (*Ricinus communis*) seeds oil with cow milk internally. Within very less time this use cures the patients completely. Andi grows as wasteland herb in this part of the Chhattisgarh. It was introduced as new crop in the Chhattisgarh but failed to gain popularity among the farmers and as result it grows in wasteland. The natives, aware of its medicinal properties and uses, do not want to destroy this herb in wastelands. The natives are also aware of Bhelwa (*Semecarpus anacardium*) tree and its medicinal uses. In treatment of Boils, they use the seed oil of Bhelwa in combination with Gud (Jaggery) and Kattha (*Acacia catechu*). The combination is applied on Boils in form of paste. This application suppresses the small Boils whereas suppurates the Big Boils. This use is very popular among them. Its popularity clearly indicates its efficacy. I have mentioned in previous articles that the traditional healers of Pendra region use the new leaves of Bamboo in treatment of Dysmenorrhoea. The traditional healers of Patan region are also aware of this use. They use it in combination with new leaves of Kaitha (*Feronia elephantum*). Both leaves are mixed in equal proportion and juice is extracted by crushing. The juice in combination with Shahad (Honey) is given internally as treatment. The healers informed that this combination is a boon for these patients. Now, I am trying my best of inform the traditional healers of Pendra region about this new combination. The natives and traditional healers of Patan region are using different parts of Fudhar (*Calotropis gigantea*) in treatment of many common diseases both internally as well as externally. I got new information from them. In treatment of headache due to poor digestion, the natives collect the old matured leaves of Fudhar and tie it around the affected part. According to the natives, this simple treatment gives great relief. I have mentioned in previous articles that the healers and natives of many parts use the old leaves of Fudhar after smearing lukewarm cow ghee on it, in same manner to treat the Migraine (Adhasisi). According

to the natives of Patan region, in case of normal headache there is no need of application of cow ghee.

My village Khudmudi is situated in Patan region. This is the reason, I have special affection with the natives and healers of this region. You will find more details in coming articles.

Thank you very much for reading the article.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India. :
Interaction with Shri Bhardwaj, a healer having traditional knowledge about herbs useful
in treatment of snake bite.**

When I was working at Indira Gandhi Agricultural University, Raipur, Shri Bhardwaj was studying at Agriculture College for B.Sc. (Ag) course. Basically, he was Gram Sevak (Rural Agricultural Extension worker) at State Agriculture Department. One day, he came to me and informed that he have information about common herbs useful in treatment of snake bite. He claimed that in his native village Masturi (Bilaspur) he has treated many cases successfully and the natives of his region are well aware of his expertise. In fact, he gained this knowledge from the senior members and according to him, since generation his family is treating the patients without taking any charges as social work. I assured him to give full assistance. He told me that he wants to popularize his knowledge among genuine natives so that more people can get benefits from this traditional knowledge. As you know, the Raigarh region of Chhattisgarh is rich in natural population of venomous snakes, Shri Bhardwaj was having a dream to establish a small clinic at Raigarh region with the help of state authorities and to serve the patients whole life. I assisted him in publication of his knowledge and dreams in local news papers. Many natives and social organizations came forward but most of them were interested in secret formulation and as usual very soon, they forgot the great work and knowledge of Shri Bhardwaj. The state authorities have also not extended any help of the traditional healer of young generation. Many specialists related to modern medicines, warned me to not to promote these quacks, otherwise they will go for police case. At that time, I was not much aware of importance

of traditional healers and knowledge and about the respect the world community is eager to give. Later, Shri Bhardwaj came to me with many patients and family members, who have benefited from his free treatment. He was eager to disclose the formulation to me but I said that if you are practicing it and it is your family tradition to give it to the representatives of next generation, then there is no threat to this unique knowledge. Keep it with you. Shri Bhardwaj informed that by using herbs found as weeds, he treats the patients. After adopting all first aid measures, as treatment he give a herbal combination internally to the patients and within few hours the patients get relief. By seeing the affected portion, he identifies the species of snake. The main ingredients of this combination occur as perennial herbs in crop fields. On my request, many doctors at government hospital, started taking help of Shri Bhardwaj's medicine as last measure and they got good success rate but no one got ready to certify the miracles of his formulation. After leaving the university job, I am not in touch with Shri Bhardwaj. I am expecting that he will be still busy in his social work to save the lives of the patients. Today morning when I found three photographs of him and his patients, I decided to write an article on him. You will find these photographs very soon in the photo gallery. I have decided to meet Shri Bhardwaj as soon as possible and try to provide him the honour and recognition among the world community, he deserves.

Thank you very much for reading the article.

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Wilt in Sarpgandha : A new problem in commercial cultivation of Sarpgandha (*Rauvolfia serpentina*) in Chhattisgarh, India.

Sarpgandha is one of the important medicinal herbs in Chhattisgarh. The dense forests of Chhattisgarh are rich in natural population of both species of *Rauvolfia* i.e. *Rauvolfia serpentina* and *R. tetraphylla*. *R. serpentina* is under cultivation as medicinal crop in many parts of Chhattisgarh. Sarpagandha preparations are used as anti-hypertensives and as sedatives. These are also employed for relief of various central nervous system disorders associated with

psychosis, schizophrenia, insanity, insomnia and epilepsy. There is a high demand of Sarp Gandha plant parts specially its roots in national and international markets. The herb growers are cultivating it as long duration crop i.e. 18 to 28 months crop in Chhattisgarh. Earlier no infestation of insects or diseases has been recorded. For the first time, the problem of Wilt was observed in the year 1999 in Durg region of Chhattisgarh Plains. This Wilt causing organism *Fusarium oxysporum* var. *serpentini*) is reported from other parts of the India but its infestation in Sarp Gandha crop was recorded first time at Durg region. In the year 2002-2003, its infestation has been observed in Southern Chhattisgarh where it caused heavy damage to the herbs in crop fields. The attack of this organism on wild population of *R. serpentina* and *R. tetraphylla* have been observed but in nature the herb manages this trouble through internal resistance without any major loss. I have noted that the percentage infestation was higher in *R. serpentina* as compared to *R. tetraphylla*. The Sarp Gandha growers who have purchased the planting material from neighbouring states particularly from North India, are facing the problem of Wilt to higher degree. The farmers cultivating natives Sarp Gandha species are suffering less. In reference literatures, it is mentioned that no control measure have been worked out yet. The Sarp Gandha growers are cultivating this herb organically. Hence, they are not in favour of use of any chemical fungicide to manage this disease. In initial experiments, at farmer's fields I have found the soil solarization method effective in management of this trouble. The Sarp Gandha growers of Southern Chhattisgarh are using cow urine based herbal combinations for seed treatment and soil drenching. They informed me that they are getting considerable success through these herbal combinations. I personally feel that there is a strong need to develop a promising remedy to manage this trouble through systematic research without any delay because it is expected that in near future the area under Sarp Gandha will increase many folds in Chhattisgarh and also the problem of Wilt.

Thank you very much for reading the article.

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Traditional medicinal knowledge about Abhrak in Chhattisgarh, India.

According to the reference literatures related to Geology, Abhrak (Mica) comprises a group of minerals having peculiar physical features and chemical composition. Some are platy form comprising thin elastic plates arranged parallel to each other. It can withstand very high temperature and is a good insulator against heat and electricity, hence has wide industrial application and has no substitute. As regards chemical composition, this platy mineral contains Aluminum oxide with combined oxide of alkalies, Magnesium, Iron, Potassium and Silica. There are two major groups of Micas according to colour which is mainly due to light coloured constituents like Al_2O_3 , Na, Li and K oxides. Dark micas comprise Iron, Magnesium, Manganese containing Mica which impart black green colour to the mineral, respectively. The combined metallic ions like Iron, Potassium, Magnesium, Lithium, Manganese, Chromium, Nickel can be obtained from Mica as their released ion and hence may be the source of such metals. These minor nutrients essential for living world can be availed from Mica (Abhrak). In reference literatures, related to different systems of medicine in India, black Abhrak is considered as the best in terms of medicinal properties. In Ayurveda, four types of Abhrak have been mentioned named Pinak, Dardur, Nag and Vajra. When Pinak Abhrak is put on fire, it converts into scales. This Abhrak is considered as very harmful to the health. When Dardur Abhrak is applied on fire, it sounds like frog and takes round ball like shape. It is considered as lethal if taken internally. Nag Abhrak produces the sound like snake's hissing when put on fire. It is also not considered suitable for human body. There is no change occurs in shape and colour when Vajra Abhrak is applied on fire. Vajra Abhrak is considered best for human health. For the traditional healers of Chhattisgarh, Abhrak is a valuable medicine and they are using it since time immemorial. The traditional healers informed me that Abhrak is present in Chhattisgarh. Many healers use the Abhrak collected from neighbouring states. They are well aware of its above mentioned testing method. Through the Ethnobotanical surveys conducted in different parts of Chhattisgarh, I have identified 35 traditional healers specialized in use of Abhrak as medicine. They are using Abhrak with great precaution in treatment of many common diseases. Although the reference literatures have emphasized on its use as aphrodisiac and promising sex tonic but the traditional healers of Chhattisgarh specialized in use of Abhrak informed me that the proper use of Abhrak develops natural resistance inside the body and this natural resistance can prevent the attack of all types of troubles including AIDs and different types of cancer. The traditional healers give Abhrak as medicine under their strict supervision only. There are strict rules of its use. The healers have long list of food materials, the patients have to avoid the use during the period of treatment. The healers claim that by simply changing the food habits many patients start getting good results. The use of Abhrak gives new vigour in body. In markets, many Abhrak based products are available. The traditional healers are aware of these products. They are not satisfied with its quality. The patients having the problem of kidney and spleen are not given Abhrak in any form. Unfortunately, in most of the products, there is no details regarding this precaution and as a result many kidney patients are getting harmful effects by using Abhrak. The traditional healers of Chhattisgarh, specialized in use of Abhrak do not disclose its method of use and doses, to any one as secret traditional knowledge. As these healers are limited in number and not eager to transfer this knowledge to young generation, having no faith in herbs, it is very essential to document this valuable knowledge. I am trying my best to gain the confidence of the healers.

Since childhood, I am observing the traditional use of Abhrak pieces to decorate the white washed walls. In early days, the natives of Chhattisgarh were using the whole herb of Alsi (Linseed), grown as winter season crop in Chhattisgarh, by crushing and extracting the sticky material, to prepare a combination of Abhrak and sticky material. This combination is applied on white washed walls in form of paste to decorate the walls. Now, this use has become a thing of past in Chhattisgarh. Although the natural occurrence of Abhrak is reported in Chhattisgarh but Abhrak based drug industries have still not established in the state. I personally feel that there is a strong need to search new potential uses of Abhrak as medicine and to utilize this natural resource properly in Chhattisgarh.

Thank you very much for reading the article.

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Traditional medicinal knowledge about different Shurbuts in Chhattisgarh India : 123. Kaiphal Ke Shurbut.

For the first time I got information about this preparation from the traditional healers of Pendra and Amarkantak region. In this Shurbut, the fruits and bark extract of Kaiphal are used. The scientific name of Kaiphal is *Myrica esculenta*. This Shurbut is considered as a boon for the patients having troubles related to respiratory system specially Asthma. In treatment of Asthma it is used as supplement to main treatment. It is used as both curative and preventive to Asthma. It is considered as promising in regularizing the function of digestive system. The healers informed that in many cases, they have observed its beneficial effects on Bavasir (Piles) also. I have yet not observed its use with the traditional healers of other parts of Chhattisgarh. The common natives are also not aware of this preparation. I have noted during the ethnobotanical surveys, that as other promising alternatives are available, the use of this Shurbut is decreasing among the healers. To prepare the Shurbut, the fruit and bark extracts are mixed in equal proportion. Separately, sugar is boiled in water to prepare the Chashni (Syrup). The extract and hot Chashni are mixed to prepare the Shurbut. Diluted with water, like other Shurbuts, it is taken internally.

For the botany, traditional and reported medicinal uses of Kaiphal, please ready my previous articles.

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**Traditional medicinal knowledge about common herbs in Chhattisgarh, India :
Interactions with Shri Banshi, a herb vendor having in depth traditional knowledge about
medicinal uses of Animal parts.**

Last year (i.e. year 2002) when I was engaged in preparation of Bio-diversity Action plan for the Chhattisgarh, as expert, I got opportunity to see the Gidar Shringi (Siar Shringi) for the first time. One of the experts Dr. Farooqi, a well known Unani expert of Durg City, showed us this animal part and informed about its powerful effects as medicine. Siar means fox. According to Dr. Farooqi, when Siar becomes aged, a horn like structure emerges from its head and after emerging of this structure, the Siar gets special power to kill the prey. Siar with horn (Shringi) like structure simply looks at the preys climbed on tree and makes loud voice. The terrified prey falls down and without any effort Siar gets the food. During the ethnobotanical surveys conducted in different parts of Chhattisgarh, I have heard a lot about Siar Shringi and its miraculous effect to hypnotize the enemies and females, but never got the chance to see the Siar having horn like structure in head, in wild. The herb vendors keep this animal product for sell and according to them, they sell it to the rich natives at very high prices as Siar Shringi is very rare. The rich natives keep it with care. It is belief among them that Siar Shringi will bring prosperity and happiness. The horn like structure is kept with Sindoor (Mercuric oxide), Laung (Clove) etc. and these material are used to spread the effect of Siar Shringi. For example, to mesmerize or hypnotize the unknown female, the Laung kept with Siar Shringi is given to her. I have seen hair like structure on this animal part. Dr. Farooqi informed me that these hairs grow automatically and one must not cut these hairs. The cutting of hairs brings misfortune in near future. When I met Shri Banshi, a herb vendor of Chhattisgarh plains, I saw this animal product again. Shri Banshi informed me that he recommend the use of Siar Shringi in treatment of mental tension. According to him, these days the mental tension is resulting in split of many families. By simply keeping this animal product in home, the family tension can be reduced to upto great extant. He accepted that it is very difficult task to use Siar Shringi as a tool to bring prosperity. There are many secret mantras and special methods and only the natives having expertise in Tantra activities can do this. It is beyond the reach of common natives. As a science student, it is very hard to believe on the miraculous effects of Siar Shringi. But as it is traditional knowledge

and medicinally qualified experts have faith in this product, I personally feel that there must be some science behind its use. I am trying my best to search the reasons. By documenting the traditional medicinal knowledge about this animal product, I am completing the responsibility as Ethnobotanist with the hope that this knowledge is now safe for the future.

When I saw the beautiful feathers of Mor (Peacock) with Shri Banshi, I asked whether he is selling it for decoration or for any other purpose. Shri Banshi informed about its many traditional uses. According to him, it is common belief in Chhattisgarh that the presence of Mor Pankh (Peacock feather) acts as snake repellent. As you know, Mor kills the snakes in nature. The presence of Mor Pankh is considered as a sign of good luck also in Chhattisgarh. Shri Banshi informed that the ash collected after burning the Pankh, possess valuable medicinal properties. It is considered as a boon for the female having sterility problem. He showed me the bottle having ash, with him. According to him many traditional healers purchase this ash for treatment. This was new information for me. In early days, the natural forests were rich in natural population of this wild bird but now its population is decreasing and for the herb vendors like Shri Banshi, it is very hard to get the feather. The heavy application of agrochemicals in crop fields is considered as one of the factors responsible for decreasing population of Mor.

Although wild Boar (Jangli Suar) damage the agricultural crops to the great extent every year in Chhattisgarh but the herb vendors and traditional healers of Chhattisgarh are fan of its dare and courage. This is the reason, they use its teeth (Suar Dant) in form of Mala and lockets. In early days, the warriors were wearing the lockets having Suar Dant. today the herb vendors and traditional healers recommend it as medicine in treatment of common troubles. Shri Banshi informed me that the locket having Suar Dant is a boon for the natives having mental depression. The use of locket is recommended till the cure of trouble. After complete cure, it is removed. The locket with Suar Dant is used in treatment of nocturnal emission (Night pollution), a common trouble in young age. The youth having such troubles are advised to wear the locket. The healers have deep faith in this use. Shri Banshi further informed that in many parts of Chhattisgarh, the natives gift the Suar Dant to newly wed couples. The male partners tie the Suar Dant around the waist with the help of string and perform the intercourse. It is said that his use increases the retention time.

As I always emphasize, that there is a strong need to evaluate the efficacy of these traditional medicines through systematic research and trials. I am confident to great extent, regarding its

efficacy, as these traditional uses are still popular among the natives. Ineffective remedies no longer remain popular in any society.

Thank you very much for reading the article.

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